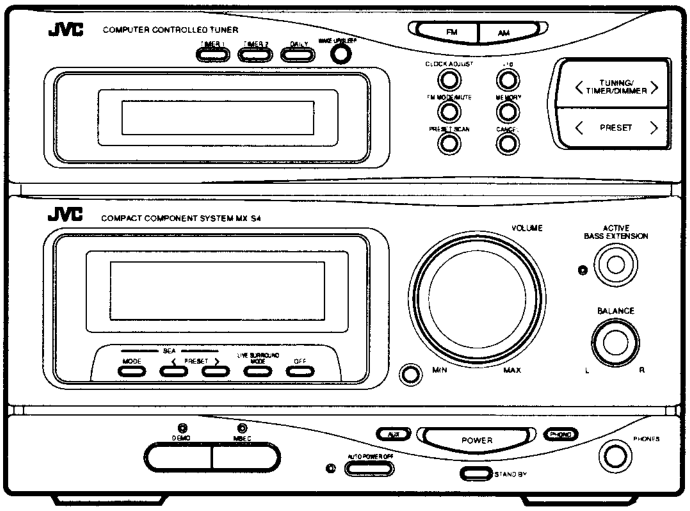
JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

CA-MXS4BK

(Unit No. RX-MXS4BK)


JVC
COMPUTER CONTROLLED TUNER
TIMER 1
TIMER 2
DAILY
FM
AM
CLOCK ADJUST
FM MODE/MUTE
MEMORY
PRESET SCAN
CANCEL
TUNING/ TIMER/DIMMER
PRESET
JVC
COMPACT COMPONENT SYSTEM MX S4
VOLUME
ACTIVE BASS EXTENSION
BALANCE
L
R
MIN
MAX
SEA
MODE
PRESET
LIVE SURROUND MODE
OFF
DEMO
POWER
AUTO POWER OFF
STAND BY
PHONES

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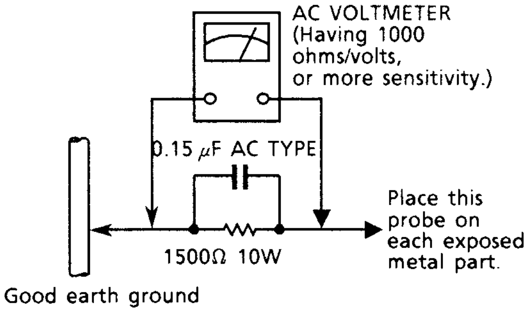
Printed Circuit Boards .... Insertion
Block Diagrams .... Insertion
Parts List ..... Separate-volume Insertion

No. 20404
Feb. 1993

Safety Precautions

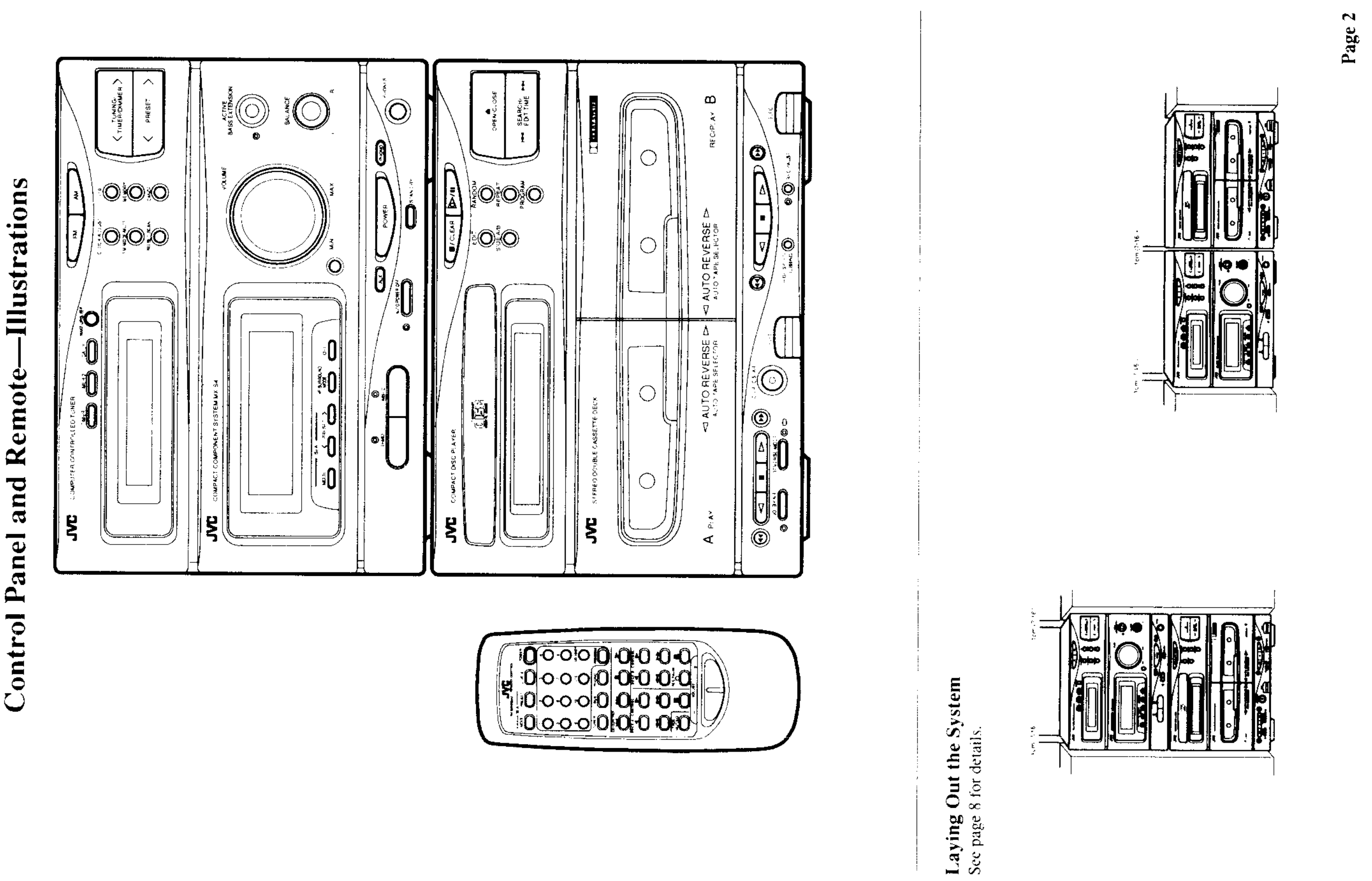
1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.).
     This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Specifications



Control Panel and Remote—Illustrations

Laying Out the System

See page 8 for details.

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Specifications

AREA	Output Power (CD in→SP out)				RX		XT		Power consumption
	W/ch	Load (Ω)	F.range (Hz)	T.H.D (1kH)	Dimension (W x H x D)	Weight (lbs. kg)	Dimension (W x H x D)	Weight (lbs. kg)	
Universal	30	8	40~20k	0.9	245 x 183 x 342.5	4.5kg	245 x 183 x 295	4.2kg	105(W)
Taiwan	30	8	40~20k	0.9	245 x 183 x 342.5	4.5kg	245 x 183 x 295	4.2kg	198(W) / 105(W)
Continental Europe	30	8	40~20k	0.9	245 x 183 x 342.5	4.5kg	245 x 183 x 295	4.2kg	105(W)
U.K	30	8	40~20k	0.9	245 x 183 x 342.5	4.5kg	245 x 183 x 295	4.2kg	215(W)
Australia	30	8	40~20k	0.9	245 x 183 x 342.5	4.5kg	245 x 183 x 295	4.2kg	215(W)
America	27	8	40~20k	0.9	245 x 183 x 342.5	4.5kg	245 x 183 x 295	4.2kg	90(W)
Canada	27	8	40~20k	0.9	245 x 183 x 342.5	4.5kg	245 x 183 x 295	4.2kg	117(VA)

Area	Frequency Range		
	LW (kHz)	MW (kHz)	FM (MHz)
East Europe	144~353	522~1629	64.0~74.0 87.5~108
Continental Europe, the U.K			87.5~108
the U.S.A., Canada	–	530~1710	
Australia	–	522~1629	
Universal type(AM Channel space 10kHz)	–	531~1602	
Universal type(AM Channel space 9kHz)	–	530~1600	
Universal type(AM Channel space 9 kHz) Taiwan	–	531~1602	

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Features

Great Sound

Here are some of the things that make your CA-MXS4BK powerful and easy to use.

- ❑ To get such **great sound** from such a compact package the CA-MXS4BK has pre-programmed sound effects like **POPS, JAZZ, ROCK, CLASSIC, MOVIE, STADIUM, D.CLUB,** and **HALL** so you don't have to be a sound engineer to get great effects. **ACTIVE BASS EXTENSION** automatically works to maintain the richness and fullness of the sound when the volume level is getting lower.

Easy Operation

COMPU PLAY

- ❑ The controls and operations have been redesigned to make them very easy to use so you can spend your time listening to music.
  - With the One Touch Operation feature of JVC's new **COMPUPLAY** you can turn on the CA-MXS4BK and start the radio, the tape deck, or the CD player with a single touch.
  - Five timers, **TIMER1, TIMER2, DAILY, WAKE UP TIMER,** and **SLEEP TIMER** are extremely easy to set so you can really use them.
  - The **Display area** is large and clear. It's organized so you can tell at a glance what's happening because functions light up as you use them, and blink to tell you they are ready.
  - **Auto Edit** figures out how to arrange CD tracks on a tape. When you are recording a tape from a CD, the selections aren't cut off if the tape ends before the selection does.
  - **Programmed Edit** allows you to arrange CD tracks on a tape in your desired order.

IMPORTANT CAUTIONS

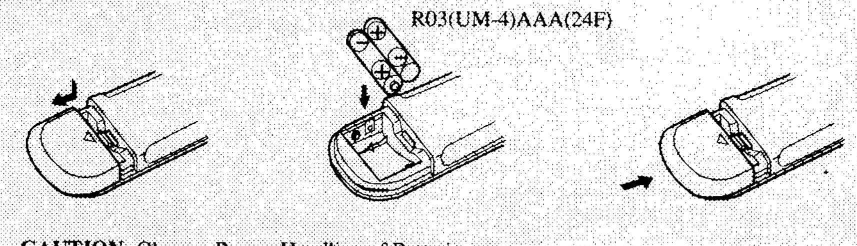
1. **Installation of the Unit**
- Select a place which is level, dry and neither too hot nor too cold (between 5°C and 35°C).
- Leave sufficient distance between the Unit and your TV.
- Do not use the Unit in a place subject to vibrations.

2. **Power cord**
- Do not handle the power cord with wet hands!
- The small amount of the power (13 watts) is always consumed as long as the power cord is connected to the wall outlet.
- When unplugging from the wall outlet, always pull the plug, not the power cord.

3. **Malfunctions, etc.**
- There are no user serviceable parts inside. If anything goes wrong, unplug the power cord and consult your dealer.
- Do not insert any metallic object into the Unit.

How to Put Batteries in the Remote Control

Match the polarity (+ and -) on the batteries with the + and - markings on the battery compartment.



CAUTION: Observe Proper Handling of Batteries.
To avoid battery leakage or explosion:
- Remove batteries when the Remote will not be used for a long time.
- When you need to replace the batteries, replace both batteries at the same time with new ones.
- Don't use an old battery together with a new one.
- Don't use different types of batteries together.

Connection Diagrams and Instructions

Connecting the AM and FM Antennas

FM Antenna Connections

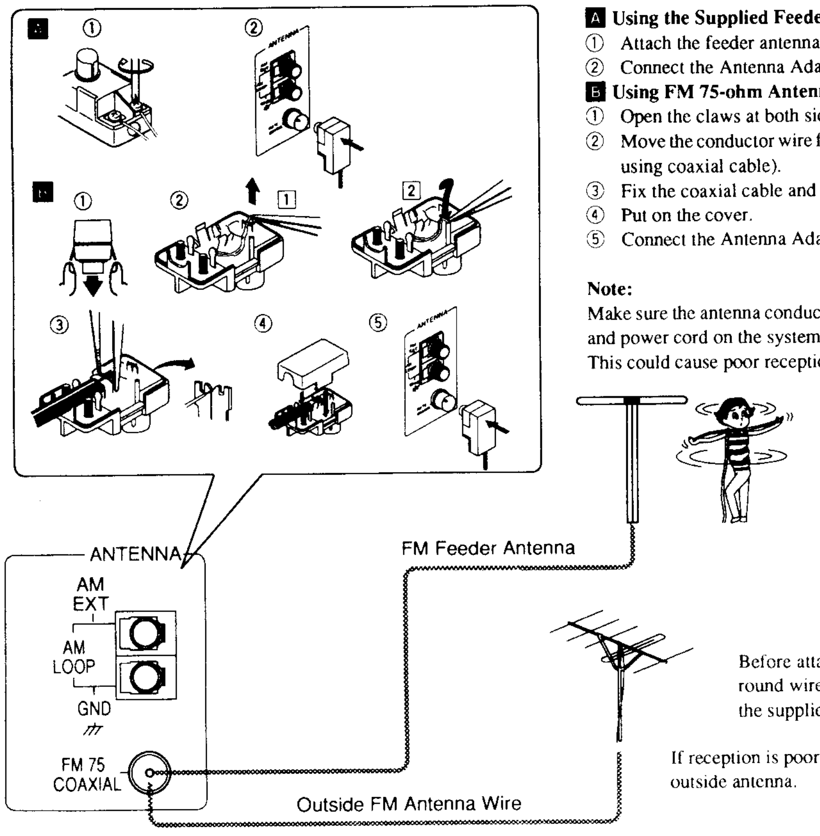
A Using the Supplied Feeder Antenna

① Attach the feeder antenna to the Antenna Adaptor as shown in the figure.
② Connect the Antenna Adaptor to the FM 75-ohm COAXIAL terminal.

B Using FM 75-ohm Antenna Cable (Not Supplied)

① Open the claws at both sides and remove the cover.
② Move the conductor wire from 1 to 2 using tweezers or similar tool (only when using coaxial cable).
③ Fix the coaxial cable and its core.
④ Put on the cover.
⑤ Connect the Antenna Adaptor on the FM 75-ohm COAXIAL terminal.

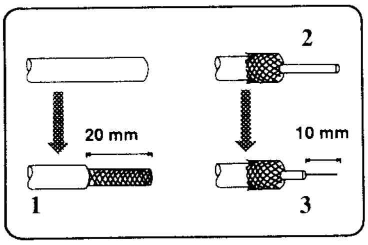
Note:
Make sure the antenna conductors do not touch any other terminals, connecting cords and power cord on the system.
This could cause poor reception.



Unfold the loops of the supplied dipole FM feeder antenna and extend them as shown. Fasten them up in the position which gives you the best FM reception.

Before attaching a 75 ohm coaxial lead (the kind of round wire going to an outside antenna), disconnect the supplied dipole indoor antenna.

If reception is poor, connect the outside antenna.

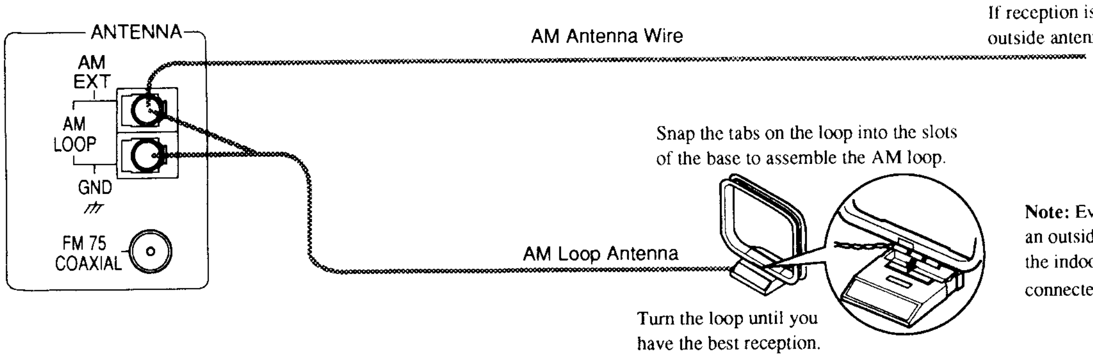


How to Strip the 75-ohm Coaxial Cable

1. Strip back the outside covering of the 75 ohm coaxial cable to expose the braided metallic mesh.
2. Pull the mesh back and twist into a single connector as shown.
3. Strip the insulation about 10 mm back from the central wire.
4. Attach to the supplied Antenna Adaptor, as shown in the diagram above.

AM Antenna Connections

If reception is poor, connect the outside antenna.

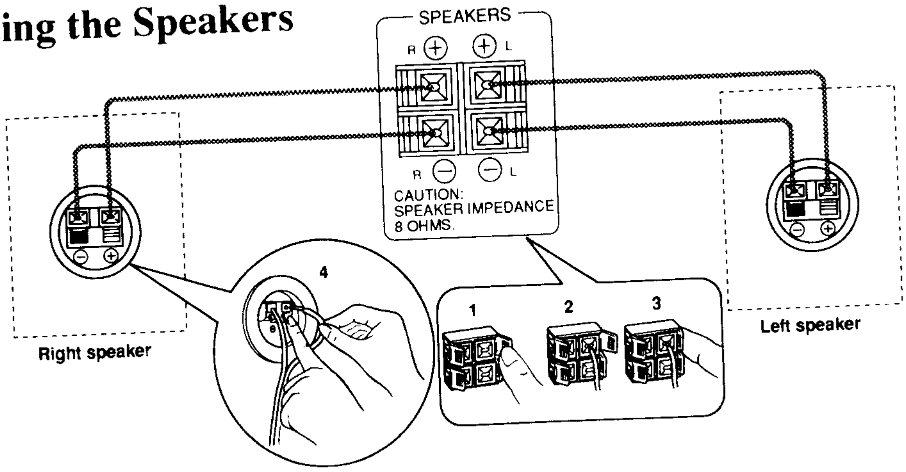


Snap the tabs on the loop into the slots of the base to assemble the AM loop.

Turn the loop until you have the best reception.

Note: Even when connecting an outside AM antenna, keep the indoor AM loop connected.

Connecting the Speakers


SPEAKERS
R
L
R
L
CAUTION:
SPEAKER IMPEDANCE
8 OHMS.
1
2
3
4
Right speaker
Left speaker

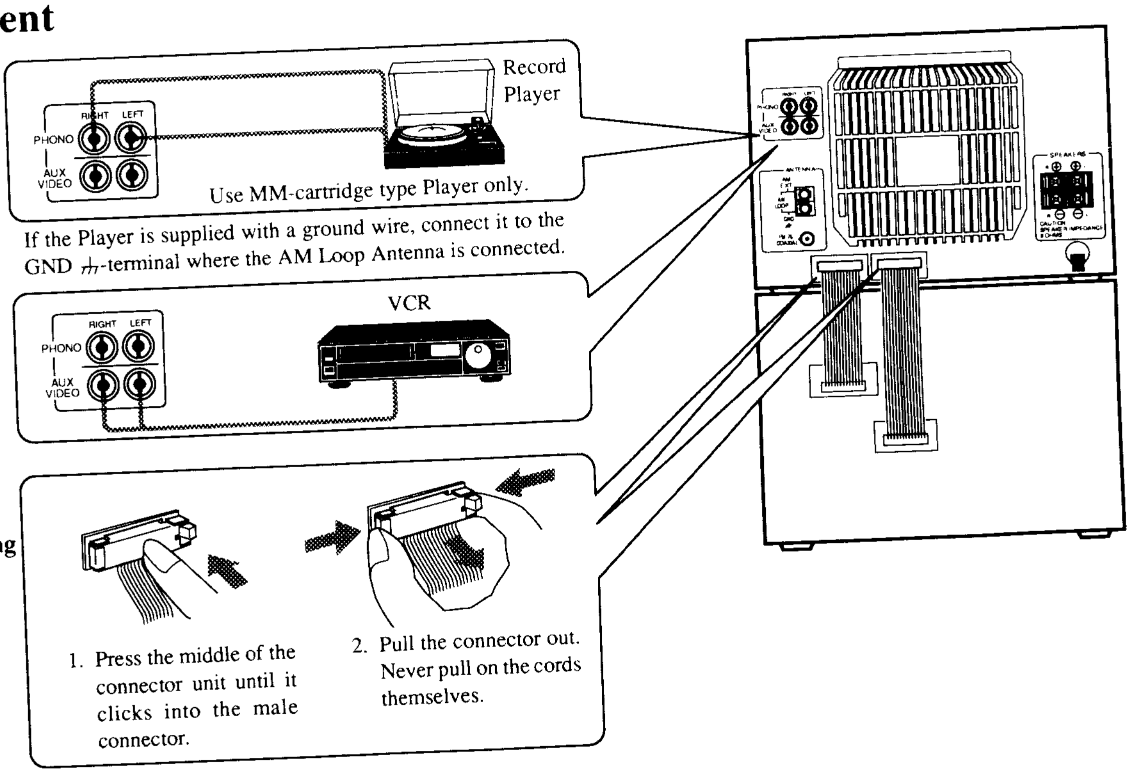
For each speaker connect one end of the speaker wire to the speaker terminals on the back of the CA-MXS4BK and one end to the speaker. On the back panel:

1. Open each terminal.
2. Insert the end of the speaker wire as shown (be sure to remove the insulation at the end of each wire first).
3. Close the terminals to clamp the speaker wires firmly in place.
4. Connect the red (+) and black (–) terminals of the right side speaker to the red (+) and black (–) terminals marked RIGHT on the CA-MXS4BK.
   Connect the red (+) and black (–) terminals of the left side speaker to the red (+) and black (–) terminals marked LEFT on the CA-MXS4BK.

IMPORTANT: Match the polarity of the speaker terminals with the polarity of the terminals on the CA-MXS4BK, red (+) to red (+) and black (–) to black (–). Check your speakers for correct impedance: Speakers 8 ohms only.

Connecting the System Connecting Cords and Connecting Auxiliary Equipment

Record Player


RIGHT
LEFT
PHONO
AUX VIDEO
Record Player
Use MM-cartridge type Player only.
VCR
RIGHT
LEFT
PHONO
AUX VIDEO
SPEAKERS
ANTENNA

If the Player is supplied with a ground wire, connect it to the GND ⏚-terminal where the AM Loop Antenna is connected.

VCR

System Connecting Cords

1. Press the middle of the connector unit until it clicks into the male connector.
2. Pull the connector out. Never pull on the cords themselves.

CAUTION: First make all connections before plugging the Unit into any AC power outlet.

Read Me First

How to get the most for your money by using this manual.

The Engineers at JVC have made the CA-MXS4BK very easy to use, and if you are experienced using audio equipment, you can figure out how to use some of the CA-MXS4BK controls by yourself. However, we have built some new features into this model, which you can learn about easily from the manual.

If you are a new user or just want a review, this manual explains how to use the CA-MXS4BK and take advantage of its features for playing and recording music, as well as other sounds. One way to use this manual is to read it through now and refer back to it when you need to refresh your skills for some special operation. Of course you can just look up the topics, such as recording a CD, that you want to do, but remember that you may need to refer to other parts of the manual for some of the instruction: for instance, in explaining how to record a CD, we assume you already know how to load a CD. That's why we recommend that you read the manual through once before starting. We've made it short, and easy to follow.

However before you proceed, please read the IMPORTANT CAUTIONS on page 4 and the set-up directions.

IMPORTANT!
Special features for a special Manual.

How This Manual Is Organized

We have incorporated some special features:

- Basic information that is the same for many different functions is grouped in one place, and not repeated in each procedure. For instance, in the section on playing a CD, we do not repeat the information about setting the volume and the sound conditioning, which are talked about in the Common Operations section.
- Names of buttons, controls and function names that light up on the display panel are written in all Capital letters like this: POWER.
- When we are talking about the Function, rather than the BUTTON or DISPLAY, then we just capitalize the first letter of the words.
- The ☞ alerts you to important information or how to solve special problems that may occur when using the CA-MXS4BK.

The column on the left of the page is a special place to make it easier to find just what you want to know about, with little headlines announcing what each part of the page is about. Sometimes illustrations and helpful hints are placed here also.

Basically we use three kinds of information to help you understand and use the CA-MXS4BK:

- ☐ Information about what you can do (such as record a CD or preset a radio station) and how the Unit is designed to make doing this activity easy.
- ☐ Procedures, usually numbered in the order you do the steps, to guide you in exactly what to do to accomplish something, such as tune a radio station or record a tape.
- ☐ Information you need to know to make decisions about which functions of the CA-MXS4BK to use for particular tasks (such as when to use Dolby NR to improve tape sound) and special hints to make your work go smoothly, like reminding you to set the sound effects before starting the CD to tape recording, since they cannot be changed once recording begins without starting completely over.

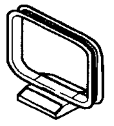
The manual has a table of contents to help you easily look up what you want to know.
We've enjoyed making this manual for you, and hope you will use it to enjoy the sound and many features built into your CA-MXS4BK.

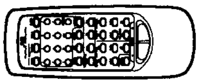
Getting Started Right

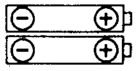
Unpacking

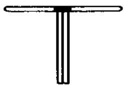
Inside the packing box....

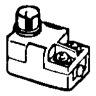
Of course you have already opened your CA-MXS4BK carton, since you are reading this manual. Although the Unit is quite sturdy, you may want to save the packing to re-pack your CA-MXS4BK in case you are moving it some distance.
Check to be sure you have all of the following things, which are supplied with the CA-MXS4BK:


AM Antenna


Remote Control


Batteries


FM Feeder Antenna


Antenna Adaptor

If any are missing, contact your dealer immediately.

Location

Where can you put it?

You can place the CA-MXS4BK in many different kinds of locations to suit your needs; just observe the cautions on page 4: keep away from moisture and heat; leave some space between the Unit and its surroundings, more than 1 cm at the sides of the console and 10 cm at the back.
Do not place the CD/Cassette Deck Section on the Tuner/Amplifier Section. If you do, the ventilation holes of the Tuner/Amplifier Section will not work.

Set Up

Very little assembly required

You will need to do the following five things to get your CA-MXS4BK ready to use.

1. Connect the Antenna(s).
2. Connect the System Connecting Cords.
3. Connect the Speakers.
4. Put Batteries in the Remote Control.
5. Connect other sound sources (VCR, Record Player) if used.

1. Connect the Antenna(s)

Please look at the diagrams on pages 5 and 6 to do these things.

Follow the diagrams on page 5. Here's what you need to know:

- ☐ For AM reception you must connect the supplied loop antenna. If reception is poor, connect the outside antenna, but leave the loop antenna in place—the AM will not work correctly without it.
- ☐ For FM reception, connect the supplied wire as shown. However, if you use an outdoor antenna, disconnect the indoor FM antenna first.
- ☐ To avoid noise, keep antennas away from metallic parts of the CA-MXS4BK, connecting cords and the AC power cord.

2. Connect the System Connecting Cords

Basically, you look at the diagrams on page 6 and follow the pictured instructions. Be sure to match the polarity of the two terminals: A-A and B-B.

3. Connect the Speakers

Basically, you look at the diagrams on page 6 and follow the pictured instructions.

4. Put Batteries in the Remote Control

Pay close attention to getting the batteries in correctly—we've made it very easy, just match the + and - marks on the batteries with the + and - markings on the Remote. See page 4 for instructions.

CAUTION: Handle batteries with care. See page 4 for proper use of batteries.

5. Connect Other Sound Sources, such as VCR or Record Player (Optional)

You can play the sound portion of a TV program or video tape through your CA-MXS4BK's sound system, often improving it greatly. To do this, a VCR or Record Player can be hooked up to play through the CA-MXS4BK. Just follow the diagram on page 6.
Now you can plug the AC power cord into the wall socket, and your CA-MXS4BK is at your command!

CAUTION: First make all connections before plugging the Unit into any AC power outlet.

Read on and find out how to use the many features built into your Unit..........

Common Operations

Here are the things that apply to all the functions of your CA-MXS4BK. If something in a procedure is unclear to you, check back here.

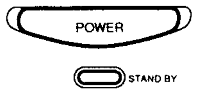
The Magic of

COMPU PLAY

COMPUPLAY

COMPUPLAY is JVC's new feature that lets you control the most used functions of the CA-MXS4BK with a single touch. This One Touch Operation starts playing a CD, turns on the radio or plays a tape with a single press of the play button for that function. What One Touch Operation does for you is to turn the power on, then start the function you have called for. If the Unit is not ready, such as no CD or tape in place, the Unit still comes on and then pauses so you can put in a CD or tape.

How One Touch Operation works in each case is explained in the section about that function.



Turning the CA-MXS4BK On

Press POWER; the STANDBY indicator goes out.

- ☐ The CA-MXS4BK comes on ready to do whatever it was doing when the power was last shut off. So if the last thing you were doing was listening to a tape in deck B, you now are ready to listen to a tape again in deck B, or you can change to another source.
- ☐ If you were listening to the radio last, the radio comes on playing that last station.

Be sure to read the caution at the end of this section concerning sound levels, and possible damage to your hearing or the equipment.

Turning the CA-MXS4BK Off

Press POWER again; the STANDBY indicator lights up and the display blanks, except for the clock display.

- ☐ The small amount of the power (13 watts) is always consumed even in the stand-by mode.
- ☐ To switch off the Unit completely, unplug the AC power cord from the AC outlet. When you unplug the AC power cord, the clock will be reset in one minute and the preset stations of the Tuner will be erased in about one week.

Making it sound the way *You* want it to:

Controlling the Sound

The same set of buttons and knobs control the sound, no matter which function is producing it. Here we will briefly explain how these controls work, and how you can use them to increase your enjoyment of the music.

•Volume

Volume Control

Rotate clockwise to increase loudness, counter-clockwise to reduce loudness. Be sure to read the caution at the end of this section about high sound levels damaging your hearing or your equipment.

•Balance

Speaker Balance Control

If the sounds you hear from the right and left speakers are not well-balanced, you can adjust the speaker output balance with the BALANCE control.

•POPS
•JAZZ
•ROCK
•CLASSIC
•MOVIE

Special Effects Control

The CA-MXS4BK has some preset sound effects that give you control of the way your music sounds, so you can tailor it for your room and for the quality of the source. We can give you some idea of how each one affects the music, but the only way to really tell is to try them yourself. Depending on the way each recording is made, or the quality of the radio signal, they will affect different pieces differently. Feel free to experiment!

Preset SEA effects

You can select a sound effect by pressing SEA MODE to cycle through the following effects until the effect you want is pointed with the cursor (►) in the display:

POPS	Adds a pleasing quality to pop music.
JAZZ	Gives a feeling of a live atmosphere. Good for acoustic music.
ROCK	Boosted low and high frequencies.
CLASSIC	Set for wide and dynamic sound stereo systems.
MOVIE	Adds breadth to sounds so you feel like you're in a movie theater.

Moreover, each preset sound effect has 10 different SEA patterns. After selecting your desired sound effect mode, press PRESET > or < (or PRESET on the Remote).

For example, when you have selected POPS, pressing PRESET > gives you the following settings:

$$\to \text{POPS1} \to \text{POPS2} \to \text{POPS3} \to \ldots \to \text{POPS10} \,\lrcorner$$

When you select FLAT with SEA MODE or when you press OFF, the sound effect will be cancelled.

•STADIUM
•D.CLUB
•HALL

LIVE SURROUND effect

You select a Live Surround effect by pressing LIVE SURROUND MODE to cycle through the following effects until the effect you want is pointed with the cursor (►) in the display:

STADIUM	Adds clarity and spreads the sound, like the sound in an outdoor stadium.
D.CLUB	Increases resonance and bass.
HALL	Adds depth and brilliance to the sound, like in a concert hall.

When you press OFF, the Live Surround mode will be cancelled, and at the same time the SEA effect will be cancelled.

SOUND EFFECT DEMONSTRATION

Sound Effect Demo Mode

Since there so many preset sound effects, you may be sometimes unable to decide which sound effect to select. In this case, you can use a very useful function – Sound Effect Demo Mode.

- ☐ While playing a CD, a tape, etc., keep pressing DEMO for a few seconds. The Unit starts demonstrating 10 preset patterns of each sound effect (POPS, JAZZ, ROCK, CLASSIC, and MOVIE) for a few seconds. When you find the desired sound effect, press DEMO again to cancel the demo mode, and select the sound effect.

Things to remember about using special effects:

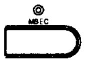
- ☐ Experiment with and set your special effects *before* you start recording with Auto Edit or Programmed Edit, because once recording starts, the special effects cannot be changed without stopping recording, and often having to start over. If you need different sound effects for each selection, use the standard recording features described on page 16, rather than Auto Edit or Programmed Edit.
- ☐ Each of the special effects changes the sound in a different way by changing which parts of the sound are increased or reduced. To see how each part of the sound will be changed, watch the display just as you press an effect button when music is playing. You will see a graphical display showing the effect's pattern for just a short time before the effect starts.

ACTIVE BASS EXTENSION

Active Bass Extension

This feature is designed and incorporated to reinforce the bass sound, depending on the volume level to maintain the richness and fullness of the bass. You cannot control it manually.

MSEC
(Multi Source-Related Effect Control)



Memorizing the Sound Effect for Each Sound Source

Press MSEC so that the indicator lights.

- ☐ The learning function of the CA-MXS4BK memorizes one sound effect for each sound source, so once you set your desired sound effect for each sound source, you don't have to repeat the many setting procedures each time you play the sound source.
  While the indicator is lit, each time you change the sound source, the preset sound effect for that sound source will be recalled.

Listening with Headphones

A standard pair of headphones can be connected at the PHONES jack on the front panel. No sound can be heard from the speakers. **Be sure to turn down the volume before connecting or putting on headphones, as high volume can damage both the headphones and your hearing.**

The Display and The LEDs

The Display and the LEDs—Two Very Useful Hints

- ☐ The Display Panel tells you many useful things about what your Unit is doing. Watch it as you give instructions to the CA-MXS4BK by pressing buttons.
- ☐ A few of the controls have a small light, called an LED, next to or even right on the function button or knob itself. The light comes on when the function is on, and goes out when it is not in use.

What's Next?

Now that you know how to control the sound, go on to learn how to enjoy each sound source: Tape, CD, Radio, and Connected Equipment.

Caution: Too LOUD!

CAUTION: Always set the VOLUME control to MIN before turning on a connected source such as a VCR or Record Player, or starting any other of the sound sources such as the radio, tape, or CD player. Otherwise, if the VOLUME control is turned up, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

Listening to the Radio

The controls for the radio are located in the Tuner section, just above the large volume control. With these controls you can browse through all the stations or use the preset function to go immediately to a particular station.

- To record from the radio, see "Recording any Sound Source to Tape," page 17.
- To set the timer to turn the Unit off at a certain time, see "Sleep Timer," page 21.

First we'll explain how to tune in stations, and then how to preset the ones you listen to often.

COMPU PLAY

Radio

One Touch Radio

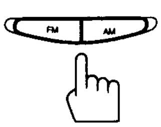
Just press AM to turn on the Unit and start playing the most recent AM station tuned in, or press FM to start the most recent FM station playing. If you press TUNER on the Remote instead, you can start playing the most recent station tuned in.

☐ You can switch from any other sound source to the radio by pressing either AM or FM.

Tuning in a Station

Press AM or FM to turn on the radio. The display shows the frequency of the station tuned to.

Three ways to tune in a station



You have 3 ways to select a station:

1. Press and release TUNING/TIMER/DIMMER < or > to move from station to station until you find the one you want.

   OR
2. Hold down TUNING/TIMER/DIMMER < or >, and the display cycles through all the stations one after the other. Release the button when you see the one you want.

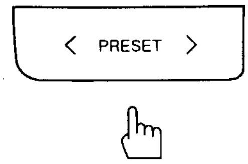
   OR
3. Press once and release PRESET > to go to the next preset station, or hold PRESET < to cycle through the preset stations: release the button when the preset station you want shows on the display. (This method is possible after presetting stations by yourself.)

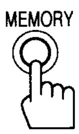
You can also use the Remote to tune in stations and preset channels:

- To tune preselected stations with the Remote:
  1. Press TUNER so that you can receive the most recent station tuned in.
  2. Select the station by entering the preset channel number in the 10 Key pad of the Remote. The Display shows the new channel number and frequency.

Presetting Stations

How to preset AM and FM radio stations





Once a station is assigned to a channel number, the station can be quickly tuned either from the Remote using the 10 Key pad or the CA-MXS4BK itself using PRESET <, > or +10 to call up the channel number.

☐ You can preset a total of 40 stations, either AM, FM, or a mixture of both, at random.

☐ Preset stations may be erased when power is cut off to the Unit, as when it is unplugged from the AC outlet or a power failure occurs. If the preset stations are lost, simply set the stations again using the following procedure.

To preset radio stations:

1. Tune in the station you want to set.
2. Press MEMORY.

   ☐ On the display, MEMORY lights up and “-- --” will blink for 5 seconds. During these 5 seconds while “-- --” is blinking you can assign a channel number to the station and enter it into the memory.
3. Select a channel number by pressing PRESET <, > or +10 until you find the channel number you want. When you press +10, the ten's digit will increase.

   For example, to select 21, press +10 twice and PRESET > twice. To select 19, press +10 twice and PRESET <.
4. Press MEMORY and the station will be assigned to the channel number showing on the display.

To cancel the preset stations:

1. Press CANCEL.
   - ☐ On the display, CANCEL and "-- --" will blink for 5 seconds. During these 5 seconds while CANCEL and "-- --" are blinking you can cancel preset stations.
2. Select a channel number by pressing PRESET <, > or +10 until you find the channel number of the station you want to cancel. When you press +10, the ten's digit will increase.
3. Press CANCEL and the station will be erased.

PRESET SCAN

Scanning through Preset Stations

You can scan through your preset radio stations, stopping at any station you want to listen to.

1. Press PRESET SCAN.
   - ☐ The Unit scans your preset stations, starting with the frequency being received, and moving upward.
     Each preset station is received for a few seconds with the channel number blinking.
2. If you want to listen to one of the preset stations, press PRESET SCAN again while the channel number is blinking.

If you do not stop at any station, the Unit will scan through the preset stations once, then return to the station tuned before scanning started.

FM MODE/MUTE

Receiving in Stereo or Mono

When an FM stereo broadcast is hard to receive or noisy:

- ☐ Press FM MODE/MUTE and reception will improve, although you will lose the stereo effect. In this state, you will hear some noise while tuning into a station.
- ☐ To restore stereo effect, press FM MODE/MUTE again so that AUTO appears in the display. In this state, when a program is broadcast in stereo, you will hear stereo sound; when in monaural, you will hear monaural sound. Furthermore, in this state, you won't hear noise while tuning into stations.

Listening to a Compact Disc

COMPU PLAY

Compact Disc Play

The quickest way to start a CD is with One Touch Operation:

- ☐ Press Play/Pause ▷/❚❚ on the CD player or Play ▶ in CD CONTROL on the Remote.
  - ☐ If a CD is already loaded, the Unit automatically turns on and starts to play it from track 1.
  - ☐ If no CD is loaded, the CD tray opens, and you can put in a CD, printed side up, press Play/Pause ▷/❚❚ and the tray closes and the CD starts playing.
  - ☐ If you press ⏏ OPEN/CLOSE, the Unit automatically turns on and the CD tray comes out.

How to use the CD player: from the most basic to advanced

Basics of Using the CD Player

Here are the basic things you need to know to play a CD and locate the different selections on it. Each selection is called a track, so when we are talking about locating a track, we are also talking about how you find a certain song or performance.

PLAY/PAUSE

To Load, Play, and Stop a CD

1. Press ⏏ OPEN /CLOSE.
2. Put a CD, printed side up, into the tray.
3. If you want to listen to the CD now, press ▷/❚❚ and adjust the volume.
   - ☐ The CD tray closes automatically.
   - ☐ The display shows the track being played and the length of time since it started.
4. To stop the CD, press ■/CLEAR. When you start again, the CD begins with track 1.
5. To pause the play, press ▷/❚❚ while the CD is playing so when you press ▷/❚❚ again the CD starts just where you left off.
6. To remove a CD, press ⏏ OPEN/CLOSE, take the CD out, and press ⏏ OPEN/CLOSE again to close the tray. Keep the tray closed except during loading and unloading to protect the mechanism from dust and damage.

CD

Find track

How to Find the Track or a Particular Point You Want

- ☐ Each time you press briefly and release SEARCH /EDIT TIME ⏮ or ⏭ the track changes by one.
  - Press and release SEARCH/EDIT TIME ⏭ to go ahead one track at a time.
  - Press and release SEARCH /EDIT TIME ⏮ to go back one track at a time.
- ☐ Holding down SEARCH/EDIT TIME ⏮ or ⏭ will fast forward or fast reverse the CD so you can quickly find the particular part of a track you want to listen to.
- ☐ Holding down ⏮ or ⏭ on the CD CONTROL section of the Remote allows you to change tracks continuously.

Using the Remote to find a track

Locating a Track with the Remote Directly

Using the 10 key pad on the Remote allows you to go directly to the beginning of any track.

1. Press CD 10 KEY.
2. Enter the number of the track you want using the 10 key pad.
    - Example: for track 5, press 5. For track 15, press +10 then 5. For track 20, press +10, then 10.
3. As long as a CD is loaded and the Unit is on, as soon as you enter the number of the track you want, it will start to play.

With programming, you can play back tracks in any order

Programming the Playing Order of the Tracks

In addition to the high quality sound which makes the CD such a good way to listen to music, you can change the order in which the tracks play.

Random Play

Before starting a CD, press RANDOM on the CD player.

☐ The tracks will play in no special order.
☐ When all of the tracks have been played, the CD shuts off.
☐ Press REPEAT before or during random play to instruct the CA-MXS4BK to continue with a different random track selection after the last selection is played.
☐ To cancel random play, press ■/CLEAR.

Program with the Remote

Programmed Play

You can arrange the tracks to play in any order you like with the Program function. The Remote is very useful for this because you can select tracks by number with the key pad. See "How to Use the Remote Control," page 22, if you need more information about its use. You can also use the main Unit.

How to program: just 5 easy steps

To program the CD track order from the Remote, follow this procedure:

1. Press PROGRAM.
2. Press CD 10 KEY.
3. Press the number of the first track you want to hear, then the number of the second track, and so on until you have entered all the track numbers you want to play.
    ☐ Refer to the section "How to Use the Remote Control" on page 22 if you have questions about how to enter numbers above 10.
    ☐ Your program can include up to 32 tracks, and you can repeat tracks if you wish.
4. Press Play/Pause ▷/II to start the program—the first track you programmed will start to play, followed by the next one you entered, until all the selected tracks are played.
5. To stop the CD during Programmed Play, press Stop ■. To cancel the program, press PROGRAM on the Remote or ■/CLEAR on the main Unit.

Programming from the front panel

To program the CD from the main Unit, follow this procedure

1. Press PROGRAM.
2. Press SEARCH/EDIT TIME ⏮ or ⏭ to locate the track you want to start with.
3. Press PROGRAM to store the selected track.
4. Repeat steps 2 and 3 until you have entered all the tracks you want to program.
5. Press Play/Pause ▷/II and the Unit will begin playing the tracks in the order you programmed them.

Programming Hints

A Few Hints to Make Programming Easier

☐ If you want to change the entire program, press ■/CLEAR on the main Unit, and then you can start over.
☐ To view the order of the tracks in your program when it's playing, press Stop ■ on the Remote, then press ⏮ or ⏭ on the Remote to display the order of the tracks. Each time you press ⏭ the next selection in your program is displayed. (Press ⏮ for the previous selections.)
☐ To add a track to your program, just press the number you want to add.

Repeating a Selection or the Entire Disc

Repeat a selection or the whole CD

☐ You can have either the program or the individual selection currently playing repeat as many times as you like by pressing REPEAT. Each time you press REPEAT, it cycles from OFF, which turns the REPEAT indication out on the display, to REPEAT which will repeat all tracks in order or according to the program you have set, and REPEAT 1 which will repeat the currently playing track. To cancel Repeat, just press REPEAT until the REPEAT indication on the display goes off.

Listening to a Tape

Listen to a tape:
How to use your tape deck

The tape deck allows you to play, record and dub audio tapes.

- ❑ To record or dub, see Recording page 16.
- ❑ With Automatic Tape Type Detection, you can listen to type I, II, or IV tapes without changing any settings.
- ❑ To play a tape and learn about the many easy to use features of the dual tape deck built into your CA-MXS4BK, read on here!

Playing Back a Tape

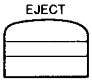
You can play a tape from either deck A or deck B; but remember: only deck B can record.

One Touch Play

By pressing either Play Forward ▷ / Play Reverse ◁ (or Play Forward ►/ Play Reverse ◄ for deck A and B control on the Remote) the power will come on, and if a tape is in the deck, it will start to play. If no tape is loaded, the Unit will come on and wait for further instructions.

Regular Play

Playback Procedure



When power is already on, you can use this basic procedure:

1. Press EJECT, which is located just to the right of the deck, for the deck you want to use.
2. When the cassette carrier opens, put the cassette in, with the exposed part of the tape down toward the base of the CA-MXS4BK.
   - ❑ If the cassette carrier does not open, turn the Unit off, then back on again and press EJECT.
3. Close the carrier gently.
4. Turn the volume down. (See the Caution on page 10 about possible damage from setting the volume too high.)
5. Press Play Forward ▷ to play the front side, or Play Reverse ◁ to play the reverse side.
6. To stop playing, press Stop ■. To remove the tape, press EJECT.

Fast Left and Fast Right

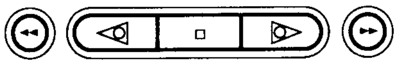
- ❑ While the tape is stopped, press Fast Left ◄◄ and the tape will wind rapidly onto the left side of the cassette without playing.
- ❑ While the tape is stopped, press Fast Right ►► and the tape will wind rapidly onto the right side of the cassette without playing.

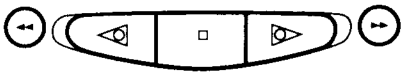
Music Scan

Finding the place you want:
Music Scan

To use the Scan function, you need to understand one basic idea, which might just make you a Master of Tape Control!

- ❑ Look at the Play Forward and Play Reverse Controls:


Deck A


Deck B

- ❑ When the power is on, the glowing LED shows the direction the tape was last moving. When the LED is blinking slowly, the tape is playing in the direction of the arrow. Now comes the tricky part: when the LED is blinking rapidly, the tape can be moving either the direction the arrow points, or the opposite direction, ***depending on whether you pushed* Fast Right ►► *or* Fast Left ◄◄.** The tape will be going at high speed in the direction of the arrows of the button you pushed. The direction of the arrow with the rapidly blinking LED shows which way the tape will start playing when the fast search is done. Put in a tape and try it out.
- ❑ The Scan function works by detecting a 4 second blank at the beginning of each selection, so it won't work well if your tape has:
  - No blank at the beginning of a track.
  - Noise (often caused by much use or poor quality dubbing) which fills the blank with.
  - Long very soft passages or pauses in a selection. The scan will detect these instead of the 4 second blanks. If this happens, just go ahead and scan again until you reach the selection you want.
- ❑ Music scan only works on one tape at a time.
  - If you are recording on Deck B, music scan will not work on deck A.

Scan Forward.....

Scan Forward

With the tape playing, to find the beginning of the next selection, press Fast Right ▶▶ or Fast Left ◀◀ whichever one points in the same direction as the arrow with the slowly blinking LED.

❑ The tape will fast forward to the next selection and begin playing it.

.....Scan Back

Scan Back

With the tape playing, to find the beginning of the selection now playing, press the Fast Right ▶▶ or Fast Left ◀◀ button pointing the opposite direction from the arrow with the slowly blinking LED.

❑ The tape will fast reverse to the beginning of the piece and start playing it again.

More Useful Things to Know:
•Continuous Play
•Reverse Mode
•Dolby

Useful hints and features to know about when using your tape deck

❑ **Continuous Play:** When a tape finishes playing with the REVERSE MODE indicator on, the Unit always checks to see if a tape is in the other deck. If one is there, it automatically starts playing it. This Continuous Play happens regardless of which deck starts first.

❑ Use **Reverse Mode** to make the tape automatically reverse at the end of a side and start playing the other side. Press REVERSE MODE to change from Reverse Mode on (the LED is lit) to Reverse Mode off, or from off, to on.

- If there is a tape in the other deck, it will start playing when both sides of the first tape have been played. As long as the Reverse Mode LED is lit, the tapes will continue to play in the above sequence.

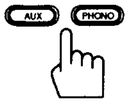
❑ Press DOLBY NR to switch **Dolby Noise Reduction** on (the LED lights up) or off (the LED goes off). If a tape is recorded with Dolby B NR, playing it back with Dolby on will reduce tape noise and improve the clarity of the sound.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol DD, are trademarks of Dolby Laboratories Licensing Corporation.

Listening to a VCR or Record Player through your CA-MXS4BK

Advantages in Connecting a VCR or Record Player

By playing the sound from a VCR or Record Player through the CA-MXS4BK, you can often dramatically improve the quality, and gain control over how the music or program sounds. Once the connected equipment is playing through the CA-MXS4BK, you can apply the sound effects, make recordings, or listen with the headphones. Here are the steps to take:



1. Make a connection between the VCR or Record Player as shown on page 6.
   ❑ Since there are many different types of VCRs and Record Players, we can't tell you here just how to make the connections on the other equipment. However, the diagrams on page 6 will cover most cases, and you can also look in the instruction manual for the VCR or Record Player you have.
2. Press PHONO or AUX either on the Unit or Remote.
   ❑ The Unit is turned on and PHONO or AUX lights up on the display.
3. Switch on the connected equipment and start it playing.
4. Set the Unit's volume to its lowest setting. Use FADE/MUTING on the Remote, or turn the VOLUME control all the way counterclockwise.
5. To cancel the PHONO/AUX setting, change the source by starting any one of the CA-MXS4BK's built-in sound sources, such as the radio or CD player.

Recording

What can you record?
•Tapes
•Radio
•CDs
•Connected Source

Recording onto cassette tape from any of the sound sources is easy and the CA-MXS4BK does most of the work. Just have a tape in deck B, have the source ready, make one or two settings, and you're ready to record.

For each source the procedure is a little different and now we'll explain just what to do for each one. If you forget, just come back to the section which has the specific procedures you need. But first, here are a few things to make your recordings better.

Things to Know before You Start Recording:

Copyright

- **It may be unlawful to record or playback copyrighted material without the consent of the copyright owner.**

Reduce Hiss—Dolby NR

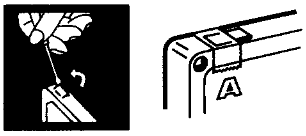
- Press DOLBY NR (noise reduction)—the LED lights up—to reduce tape hiss.

Recording Level

- The recording level, which is the volume at which the new tape is being made, is automatically set correctly, so it is not affected by the VOLUME control on the CA-MXS4BK. Thus, you can adjust the sound you are actually listening to without changing the recording. If you don't want to listen to the sound, you can turn the VOLUME control all the way down, or press FADE/ MUTING on the Remote.

Erasure Protection

- Cassettes have a special feature so you won't accidentally record over a tape you want to save. Two small tabs on the back, one for side A and one for side B, can be removed to prevent erasure or re-recording. To record on a cassette with the tabs removed, you must cover the holes with tape first. However, when a Type II tape is used, only cover part of the hole as shown below, since the other part of the hole is used to detect the tape type.



Select Sound Effects

- When recording, you can select the sound effects with the preset sound effect buttons to condition the music as it is recorded. But when recording using Auto Edit or Programmed Edit, once recording has started, these settings cannot be changed. When recording from tape Deck A to Deck B, the sound effects cannot be used, because the signal doesn't go through the amplifier first. This method gives you the highest quality dubbed tapes.

- Type I and type II tapes can be used for recording. While type IV tapes can be played, type IV tapes cannot be used for recording on the CA-MXS4BK.

☞ If recordings you make have excessive noise or static, the Unit may be too close to a TV which was on during the recording. Either turn off the TV or increase the distance between the TV and the CA-MXS4BK.

Standard Recording

Standard Recording: Any Source to Tape

This is the basic method for recording any source. The CA-MXS4BK also has special ways for recording CD to tape, and tape to tape, which save you time and effort, as well as give you some special effects.
However, when you need to add a selection to a tape you have made, or are combining selections from several sources on one tape, use the method we describe here; just substitute the source you want, such as a tape in deck A, or CD, or radio in this procedure. You can also record from the microphone or an auxiliary source with this procedure.

Source to Tape: Step by Step

Recording any Sound Source to Tape

Follow these steps to record from any sound source onto a tape in deck B.

1. Press POWER so the LED on the VOLUME control glows.
   - ☐ When you want to record on both sides of the tape, press REVERSE MODE to ON and be sure to start recording from side A. If youstart recording from side B, the deck stops after recording side B without going to side A, even if the Reverse Mode is ON.
2. Load the tape you are making into Deck B.
3. Press REC PAUSE. The LED lights up.
4. Prepare the source, for example, tuning in a radio station, loading a CD, turning on a connected Record Player or VCR, etc.
   - ☐ If the source is already playing, just press REC PAUSE, then press either Play Forward ▷ to record on side A, or Play Reverse ◁ to record on side B.
5. When you want to start recording, press either Play Forward ▷ to record on side A, or Play Reverse ◁ to record on side B of the tape.
   - ☐ Hint: any time a source other than deck B is playing, you can record by putting a tape in deck B, pressing REC PAUSE, then Play Forward ▷ or Play Reverse ◁ to start recording that source.

CD to Tape, Introduction

CD to Tape Recording

There are three ways to record from CD to tape:

- ☐ The standard method described above.
- ☐ Auto Edit—Your CA-MXS4BK figures out which selections to put on which side of the tape, so a selection isn't cut off before it's finished when the tape runs out.
- ☐ Programmed Edit—You can decide the selections to be recorded in you desired order.

Auto Edit, CD to tape, Introduction

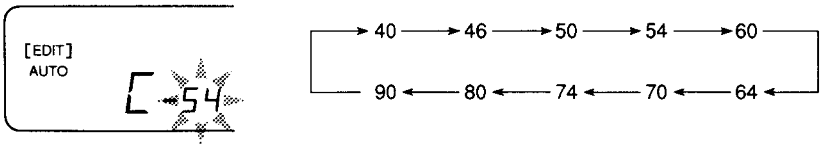
Recording a CD onto a Tape Using Auto Edit

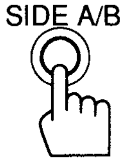
Using Auto Edit, you can arrange the CD tracks to fit the tape, so a selection isn't cut off when the tape runs out first. Auto Edit is one of the best ways to copy all of a CD onto a tape.

The selection of which tracks go on which side is based on the lengths of the tracks and the length of the tape. The CA-MXS4BK can figure out most of what it needs to know, but you will have to tell it the tape size you are using if your tape is a different size than the one picked by the program. Follow this procedure to record a CD using Auto Edit.

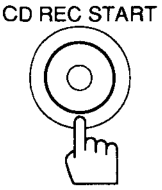
Auto Edit, CD to tape, Step by Step

1. Put the cassette in deck B.
   - ☐ Press REVERSE MODE if you want to record on both sides of the cassette.
2. Load the CD into the CD Player.
   - ☐ If the CD is already loaded, be sure the power is on.
3. Set the sound effects you want now, since the sound environment cannot be changed once recording starts.
4. Press ■/CLEAR.
   - ☐ This cancels the previous edit or program setting.
5. Press EDIT on the CD player so that "[EDIT]AUTO" appears in the display. The system tells you the minimum standard tape length to use.
   - ☐ You can select a different length of tape, depending on the actual size of the tape you are using, from ten possibilities programmed into the CA-MXS4BK: 40, 46, 50, 54, 60, 64, 70, 74 , 80 , 90. Cycle through these choices using the SEARCH/EDIT TIME ⏮ or ⏭ until you find the length closest to your tape's actual length.





   - ☐ You can use the CD10KEY and the numeric buttons on the Remote to set the tape length as you wish.
6. Press SIDE A/B, and the display shows which tracks will go on side A and which on side B. Each time you press SIDE A/B the display switches between A and B.
7. Now press CD REC START on the tape deck.
   - ☐ The tape automatically rewinds to the beginning of side A, a 10 second blank is created, and the CD begins to play and be recorded.
   - ☐ To stop recording any time during the process, press either Stop ■ on deck B or ■/CLEAR on the CD player. But remember: after you stop, if you restart, the tape will rewind and start recording the CD from the beginning.



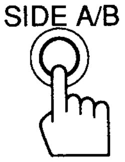
Programmed Edit, CD to tape, Introduction

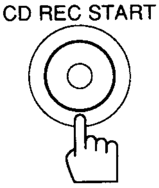
Recording a CD onto a Tape Using Programmed Edit

Using Programmed Edit, you can decided for yourself the selections to be recorded in your desired order. First, you will have to tell the Unit the tape size you are using if your tape is a different size than the one picked by the Unit. Then, you can make your program as you wish.

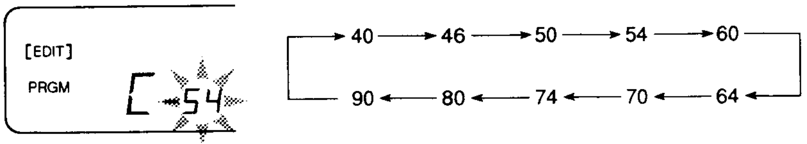
Follow this procedure to record a CD using Programmed Edit.

Programmed Edit, CD to tape, Step by Step



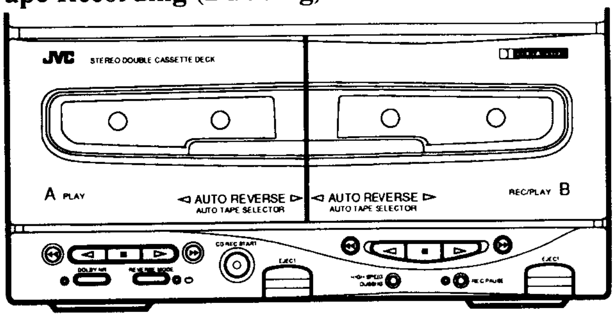


1. Put the cassette in deck B.
   - Press REVERSE MODE if you want to record on both sides of the cassette.
2. Load the CD into the CD Player.
   - If the CD is already loaded, be sure the power is on.
3. Set the sound effects you want now, since the sound environment cannot be changed once recording starts.
4. Press ■/CLEAR.
   - This cancels the previous edit or program setting.
5. Press EDIT on the CD player so that "[EDIT]PRGM" appears in the display. The system tells you the minimum standard tape length to use.
   - You can select a different length of tape, depending on the actual size of the tape you are using, from ten possibilities programmed into the CA-MXS4BK: 40, 46, 50, 54, 60, 64, 70, 74, 80, 90. Cycle through these choices using the SEARCH/EDIT TIME ⏮ or ⏭ until you find the length closest to your tape's actual length.



   - You can use the CD 10KEY and the numeric buttons on the Remote to set the tape length as you wish.
6. Press SIDE A/B. Now the tape size is determined and you can make a program for side A. (See steps 2 and 3 on page 13.) After making a program for side A, press SIDE A/B again so you can make another program for side B.
7. Now press CD REC START on the tape deck.
   - The tape automatically rewinds to the beginning of side A, a 10 second blank is created, and the CD begins to play and be recorded.
   - To stop recording any time during the process, press either Stop ■ on deck B or ■/CLEAR on the CD player. But remember: after you stop, if you restart, the tape will rewind and start recording the CD from the beginning.

Tape to Tape Recording (Dubbing)



Tape to Tape Dubbing, Introduction

Recording from one tape to another is called dubbing.
You can dub at regular speed for highest quality, or at high speed with a slight loss in sound quality. With high speed it takes only about one-half the time to copy a tape.

- Refer back to "Things to Know before You Start Recording" on page 16.
- Refer back to "Listening to a Tape" on page 14 if you have other questions about operating the tape deck.

Regular Speed Dubbing, Step by Step

How to Copy a Tape With Regular Speed Dubbing

1. Put the cassette you want to copy *from* into deck A for playback.
2. Put the cassette you want to copy *onto* into deck B for recording.
   - Anything already on the cassette in Deck B will be erased as the new sound from deck A is copied onto it.
3. Press REC PAUSE on deck B.
4. Press the Play Forward ▷ (or Play Reverse ◁) on deck A.
   - Deck A starts playing and you are set to start recording deck A to deck B.
5. Press the Play Forward ▷ (or Play Reverse ◁) on deck B.
   - Recording starts, deck A playing and deck B recording.

Important Dubbing Information

The type of tape (Normal or CrO_2) you record *from* must be the same as the type you record *onto* .

- When the tape you are recording from in deck A is a METAL (type IV) tape, use a CrO_2 (type II) tape for recording in deck B.
- When the tape you are recording from in deck A has been recorded with Dolby B NR, dubbing will be done with Dolby B NR automatically.
- During regular speed dubbing you can only listen to the source tape. If you don't want to hear it, turn down the VOLUME control or press FADE/MUTING on the Remote. Only the sound you hear will be affected; the recording level is controlled automatically.
- You cannot dub using sound effects such as POPS, STADIUM, etc.

High Speed Dubbing, Step by Step

HIGH SPEED DUBBING

High Speed Dubbing

Although the quality of the dubbed tape is a little less, high speed dubbing is a very convenient way to record from one tape to another.

1. Put the cassette you want to copy *from* into deck A, and the cassette to be copied *onto* in deck B.
2. Press HIGH SPEED DUBBING on the tape deck.
   ☐ Both decks start, deck A playing and deck B recording.
   - The sound you hear is strange because it is much faster than usual, and you may not want to listen to it. Turn it down with the VOLUME control, or press FADE/MUTING on the Remote.
   - When using high speed dubbing, you can also listen to another source such as the radio or the CD player, just as if you weren't dubbing.
   - During high speed dubbing, if you listen to a CD with Auto Power Off turned on, the whole Unit, including the tape decks, may turn off when the CD ends.

Recording selections from several different tapes

When you want to take selections from several different tapes and combine them on one tape during high speed dubbing, follow these steps:

1. Press Stop ■ on deck A.
   ☐ This causes deck A to stop, so you can change tapes, and deck B makes a 4 second blank and pauses.
2. Change the tape in deck A.
3. Press HIGH SPEED DUBBING to start deck A playing and deck B recording again.

How to Use the Timers and Set the Clock

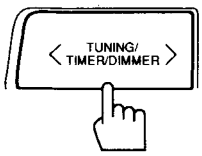
Five Timers:
•Timer 1, Timer 2
•Daily
•Wake up
•Sleep
•Auto Power Off

The timers let you control recording and playing functions automatically. With the CA-MXS4BK they are particularly easy to set and use. Five types of timers are available:

☐ **Timer 1, Timer 2** —unattended recording of radio broadcasts.
☐ **Daily** —recording of a radio broadcast that occurs at the same time every day.
☐ **Wake up Timer**—Wake up to music from any source.
☐ **Sleep Timer**—Fall asleep and have your CA-MXS4BK turn off automatically after a certain length of time.
☐ **Auto Power Off**—Automatically turns off the Unit when the CD or tape finishes.

IMPORTANT!
set your clock!

CLOCK ADJUST



Clock Setting

The timers depend on the clock: If the clock is right, the timers will work like you expect, but if the time is incorrect on the clock then the timers will also be incorrect.

Special Notice: The clock must be set, or the timers cannot be set!
So, let's set the clock first.

1. Press CLOCK ADJUST.
2. Set the hour by pressing TUNING/TIMER/DIMMER <, >. Pressing > increases the hour, and pressing < decreases it.
3. Press MEMORY.
4. Set the minutes by pressing TUNING/TIMER/DIMMER <, >. Pressing > increases the minute, and pressing < decreases it.
5. Press MEMORY again and the clock is set and starts from zero second.

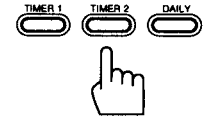
☞ If there is a power failure, the clock looses its setting, the display shows "0:00," and it must be reset.

Setting Timer 1, Timer 2, and the Daily Timers

With these timers you can make a tape of a radio broadcast (or other sound sources) automatically whether or not you are there to start the CA-MXS4BK. You can also play the sound source at the specified time without recording them. For the timer to work correctly, you need to make sure of two things in addition to setting the time for the sound source and tape recorder to come on:

☐ The tape you want to record onto must be in deck B when you want to record.
☐ The radio station whose program you want to tape must be the last one played before timer comes on.

Recording when you're not there

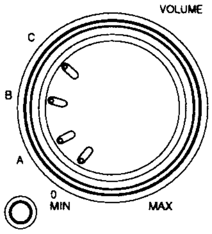


Follow this procedure to set Timer 1, Timer 2, and the Daily Timer:

1. Press TIMER 1, TIMER 2, or DAILY to tell the Unit which timer you are going to set. The corresponding indication (TIMER 1, TIMER 2, or DAILY) flashes in the display. As long as it is flashing, you can continue with the setting process. If you wait too long, and it stops before you are done, just press the button twice and start over.
2. Set the time you want the sound source to come on and the tape in deck B to start recording.
   - ❑ Use TUNING/TIMER/DIMMER <, > just like setting the clock. See page 19.
3. Set the time you want the sound source to shut off and the tape in deck B to stop recording.
   - ❑ Use TUNING/TIMER/DIMMER <, > just like setting the clock. See page 19.
4. Select the sound source with TUNING/TIMER/DIMMER <, > and press MEMORY to store it.
   - ❑ Each time you press TUNING/TIMER/DIMMER <, >, the Unit gives you one of the following settings:

Display	What it means
SOURCE -- -- -- -- --	Plays from whichever source was used just before turning off the Unit
SOURCE TUNER	Plays an FM or AM broadcast
TIMER REC SOURCE TUNER	Records an FM or AM broadcast
SOURCE -- -- CD	Plays a CD
SOURCE TAPE	Plays a tape
TIMER REC SOURCE -- -- -- -- --	Records from whichever source was used just before turning off the Unit

5. Set the volume level with TUNING/TIMER/DIMMER <, > and press MEMORY to store it.
   - ❑ Each time you press TUNING/TIMER/DIMMER <, >, the Unit gives you one of the following settings:



Display	What it means
VOL – –	Volume set to the level used before shut the power off.
VOL – 0	Volume off
VOL – A	Volume barely on
VOL – B	Volume at about a 1/4 turn of the volume control
VOL – C	Volume at about a 3/8 turn of the volume control

These volume settings do not affect your recording because the recording level is automatically set by the Unit. So if you're not home at the designated time, be sure to set the volume level to minimum.

6. Press TIMER 1, TIMER 2, or DAILY again, and the Unit will memorize the setting. Now the CA-MXS4BK is set to turn on and record the last station set when the Unit was last turned off.
   - ❑ Notice that the TIMER 1, TIMER 2, or DAILY indicator is lighted up on the display whenever the Timer is set.
7. To cancel the Timer setting, press the TIMER 1, TIMER 2, or DAILY button again; the corresponding indicator on the display goes off.

> ☞ It is very easy, and can be very disappointing, to forget to put in a tape, or to accidentally leave a tape in deck B you don't want recorded over. Although this happens to almost everyone sometimes, we hope it won't happen to you!

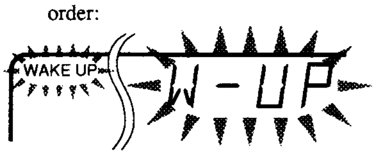
Wake up to music with the Wake Up Timer

WAKE UP/SLEEP

Wake up Timer

With this timer you can wake up to music from a CD, tape or your favourite radio program.

1. Press POWER to shut the Unit off.
2. Press WAKE UP/SLEEP—The WAKE UP display will light up the display screen.
3. Set the time you want the Unit to turn on.
   - ❑ Each time you press WAKE UP/SLEEP, the wake-up time lapse changes in the following order:



→0:05 →0:10 →0:15 →0:30 →0:45 →1:00

OFF ← 12:00 ← ····· ← 3:00 ← 2:00 ← 1:30

   - ❑ The WAKE UP indicator remains lit on the display to let you know that the Wake Time is set.
4. To cancel the WAKE UP TIMER setting, press POWER to turn on the Unit.

Hints for using your Wake up Timer:

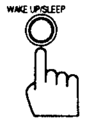
- ☐ If you select AM or FM as the source, the last played station is the one which comes on at the Wake Up time set.
- ☐ The volume when the timer turns on the source is the volume last set when the CA-MXS4BK was turned off. This can be quite a surprise first thing in the morning, so you might want to reset it before going to sleep.
- ☐ If the CD is the source, it starts playing from the first track.

Sleep Timer: turns the Unit off automatically after a set time

Sleep Timer

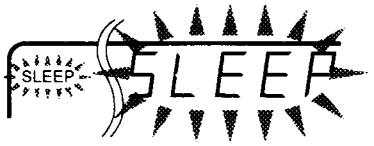
Use the sleep timer to turn the Unit off after a certain number of minutes when it is playing. Using this timer, you can fall asleep to music and know your CA-MXS4BK will turn off by itself rather than play all night.

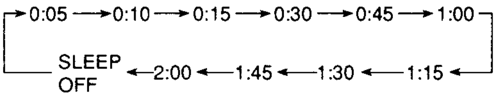
- ☐ You can only set the Sleep Timer when the CA-MXS4BK is on and a source is playing.
- ☐ To cancel the Sleep Timer, press POWER to turn off the Unit.



To set the Sleep Timer follow this procedure:

1. With the CA-MXS4BK on and a source playing, press WAKE UP/SLEEP. The SLEEP indicator on the display will start blinking.
2. Set the length of time you want the source to play before shutting off.
   - ☐ Each time you press WAKE UP/SLEEP while the SLEEP indication is blinking, it changes the number of minutes shown on the display in this sequence:





- ☐ The actual time when the CA-MXS4BK will shut off shows in the right hand corner of the display where the clock time is usually displayed.
- ☐ When the number of minutes you want shows on the display, just wait 5 seconds until the indicator stops blinking, but remains lighted.

The Unit is now set to turn off after the number of minutes you set.

Timer Priority

Since each timer can be set independently, you may have wondered what happens if the settings overlap. Here are the priorities for each timer.

- ☐ The Wake Up Timer has priority over TIMER 1, TIMER 2, or DAILY timer. This means that if the start-time for one of the timers occurs before the wake-up time, the Unit will wait until the wake-up time to turn on.
- ☐ The Sleep Timer has priority over TIMER 1, TIMER 2, or DAILY timer. This means that if the stop-time for one of the timers occurs before the sleep time, the Unit will wait until the sleep time before turning itself off.

Checking the Remaining Time

After setting the Wake Up or Sleep Timer, you can check the time remaining until the Unit turns on (Wake Up Timer) or shuts off (Sleep Timer).

- ☐ Pressing WAKE UP/SLEEP shows you the remaining time on the display for 5 seconds. Then the display returns to the clock time display (Wake Up Timer) or the radio frequency display (Sleep Timer).

Auto Power Off: turns off your CA-MXS4BK automatically

AUTO POWER OFF

Turning off the CA-MXS4BK Automatically

When playing either a tape or a CD, Auto Power Off will shut the Unit off when the tape or CD comes to the end. Although Auto Power Off is very useful for shutting off the CA-MXS4BK at night, you can also use it if you think you might forget to turn the Unit off when leaving the house or your room at other times of day. Turning on or off the Auto Power Off is easy, but there are a few things to know about it if a tape is playing. To use Auto Power Off:

- ☐ Press AUTO POWER OFF.
  - If the LED is on, Auto Power Off is on, and the source will automatically turn off when the tape or CD finishes.
  - If the LED is off, Auto Power Off is also off.
- ☐ Even if both tape decks are loaded, the Unit turns off when the currently playing deck finishes; however, in reverse play mode, the Unit plays the side currently playing, reverses and plays the other side, then shuts off.

Adjusting the Brightness of the Display

In the stand-by mode, you can adjust the brightness of the clock display.
Pressing TUNING/TIMER/DIMMER > makes the display brighter.
Pressing TUNING/TIMER/DIMMER < makes the display dimmer.

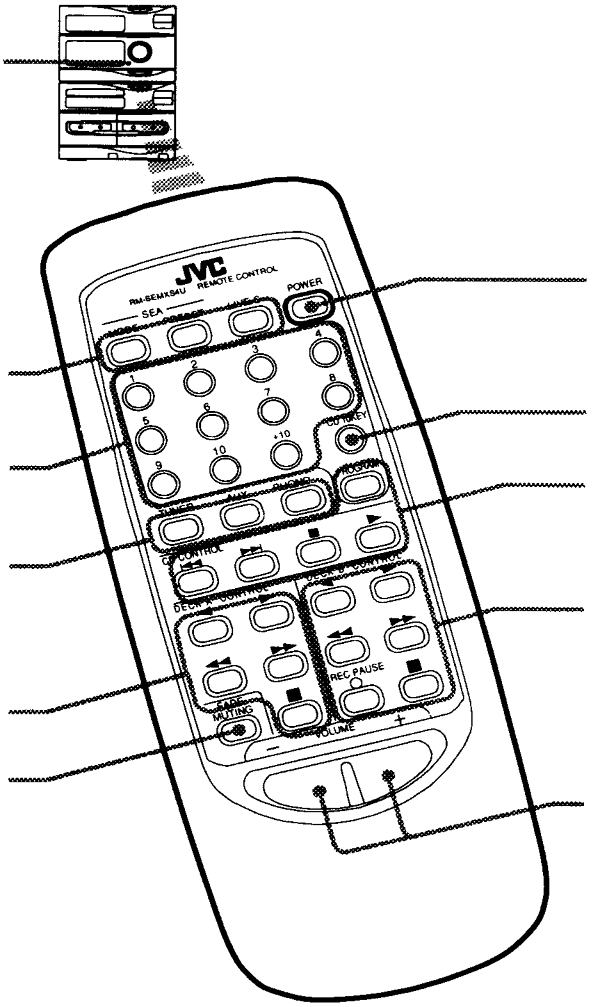
How to Use the Remote Control

The Remote Control makes it easy to control many of the functions of the CA-MXS4BK from a distance of up to 20 feet away. You do need to point the remote sensor at the CA-MXS4BK console.
Most of the buttons on the Remote Control do just what the ones on the front of the CA-MXS4BK do, and they are explained in the manual. A few functions are available only by using the Remote Control, and those are described below.

Using the Keypad

The Keypad is used to specify a CD track or the number you have assigned to a preset radio station. To enter a number using the key pad follow these steps:

- ☐ For numbers between 1 and 10, just press the button with the number you want.
- ☐ For numbers from 11 to 20, first press the +10 key, then the one's digit of the number you want—to get 15, first press +10, then 5. For 20 press +10 and 10.
- ☐ For numbers from 21 to 30, press the +10 key twice; then press the one's digit—to get 25, press +10 +10 and 5 . For 30, press +10 +10 and 10.
- ☐ For numbers from 31 and 40, follow the same procedure, only press the +10 key three times, then the one's digit—to get 32, press +10 +10 +10 and 2.



Remote sensor

Turns power On or Off

Set the sound effects

Activate the keypad for entering track numbers, programming the CD, etc.

10 key pad
See description above

Control CD Player

Select tuner or auxiliary equipment

Control deck B

Control deck A

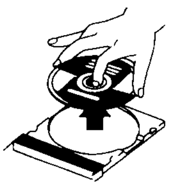
Press to automatically reduce volume when changing from one source to another, or turning the CA-MXS4BK on from a distance

Volume up and down

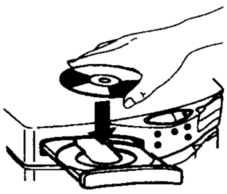
Care and Maintenance—General Notes

Compact Discs

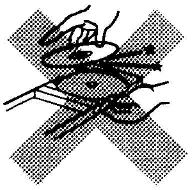
Handle your compact discs, cassette tapes, and tape deck carefully, and they will last a long time.



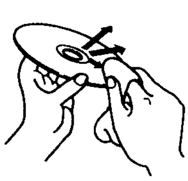
- Remove the CD from the case by holding it at the edges while pressing the center hole lightly.
- Do not touch the shiny surface of the CD, or bend the CD.



- Place the CD into the open tray with the label facing up.



- Put the CD back in its case after use to prevent warping.
- Be careful not to scratch the surface of the CD when placing it back in the case.
- Avoid exposure to direct sunlight, temperature extremes, and moisture.



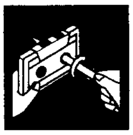
- A dirty CD may not play correctly. If a CD does become dirty, wipe it with a soft cloth in a straight line from center to edge.

CAUTION: Do not use any solvent (for example, conventional record cleaner, spray, thinner, benzine, etc.) to clean a CD.

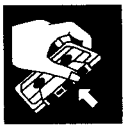
In general, you will have the best performance by keeping your tapes, CDs, and the mechanism clean.

- Store tapes and CDs in their cases, and keep them in cabinets or on shelves.
- Keep the tape deck tape carriers and the CD tray closed when not in use.

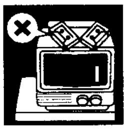
Cassette Tapes



- If the tape is loose in its cassette, take up the slack by inserting a pencil in one of the reels and rotating.
- If the tape is loose it may get stretched, cut, or caught in the cassette.



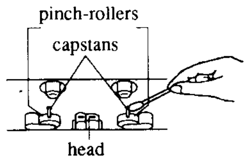
- Do not touch the tape surface.



- Do not store the tape:
  - -In dusty places
  - -In direct sunlight or heat
  - -In moist areas
  - -On a TV or speaker
  - -Near a magnet

Tape Deck

- If the heads, capstans, and pinch-rollers of the tape deck become dirty, the following will occur:
  - -Impaired sound quality
  - -Discontinuous sound
  - -Fading
  - -Incomplete erasure
  - -Difficulty recording
- Clean the heads, capstans, and pinch-rollers using a cotton swab moistened with alcohol.



- If the heads become magnetized, they will produce noise or loose high frequencies.
- To demagnetize the heads, turn off the system, and use a head demagnetizer (available at electronics and record shops).

Troubleshooting

- If you are having a problem with your CA-MXS4BK, check this list for a possible solution before calling for service.
- If you cannot solve the problem from the hints given here, or the Unit has been physically damaged, call a qualified person, such as your dealer, for service.

Symptom	Possible Cause	ACTION
No sound is heard.	Connections are incorrect, or loose.	Check all connections and make corrections. (See pages 5 and 6.)
Impossible to record.	Cassette record protect tabs are removed.	Cover holes on back edge of cassette with tape.
Hard to listen to broadcasts because of noise.	The antenna is disconnected.	Re-connect the antenna securely.
	The loop antenna is too close to the system.	Change the position and direction of the loop antenna.
	The feeder/wire antenna is not properly extended and positioned.	Extend feeder/wire antenna at the best reception position.
The CD sound is discontinuous.	The CD is scratched or dirty.	Clean or replace the CD.
Unable to operate the Remote.	The path between the Remote and the sensor on the Unit is blocked.	Remove the obstruction.
	The batteries are discharged.	Replace the batteries.
The CD tray cannot be operated.	The main AC power cord is not plugged in.	Plug in the AC power plug.
The CD does not play.	The CD is upside down.	Put the CD in with the label side up.
Operations are disabled.	The built in microprocessor may malfunction due to external electrical interference.	Unplug the system then plug it back in.
The cassette carrier cannot be opened.	The system was turned off because the timer was operated while the tape was running.	Turn on the system.

Specifications

Tuner/Amplifier Section

Amplifier

Output Power

27 watts per channel, min. RMS, both channels driven, into 8 ohms from 40 Hz to 20 kHz, with no more than 0.9% total harmonic distortion.

Input Sensitivity/Impedance (1 kHz)	
PHONO	3 mV/47 kohms
AUX/VIDEO	300mV/47 kohms
Speaker terminals	
Speakers	8 ohms

Tuner

FM Tuner

Tuning Range	87.5 ~ 108.0 MHz
Usable Sensitivity	0.95 μV/75 ohms (10.8 dBf)
Signal-to-Noise Ratio (IHF-A weighted)	MONO (at 85 dBf) 80 dB STEREO (at 85 dBf) 73 dB

AM Tuner

Tuning Range	530 ~ 1,710 kHz
Dimensions (Approx.)	245 x 183 x 342.5 mm (w/h/d) ($9^{3}/_{4}$ x $7^{1}/_{4}$ x $13^{1}/_{2}$ in.)
Weight (Approx.)	4.5 kg (9.9 lbs)

CD/Tape Deck Section

Tape deck

Frequency response	
CrO_2:	30 ~ 16,000 Hz
Normal:	30 ~ 15,000 Hz
Wow and Flutter	0.09% (WRMS)

Compact Disc Player

Dynamic Range (1 kHz)	96 dB
Signal-to-Noise Ratio	102 dB
Wow and Flutter	Unmeasurable
Dimensions (Approx.)	245 x 183 x 295 mm (w/h/d) ($9^{3}/_{4}$ x $7^{1}/_{4}$ x $11^{5}/_{8}$ in.) (Maximum depth 394 mm ($15^{9}/_{16}$ in.) with the CD tray open)
Weight (Approx.)	4.2 kg (9.3 lbs)

Power Specifications

Power Requirements	AC 120 V ~, 60 Hz
Power Consumption	90 Watts, 117 VA

Supplied Accessories

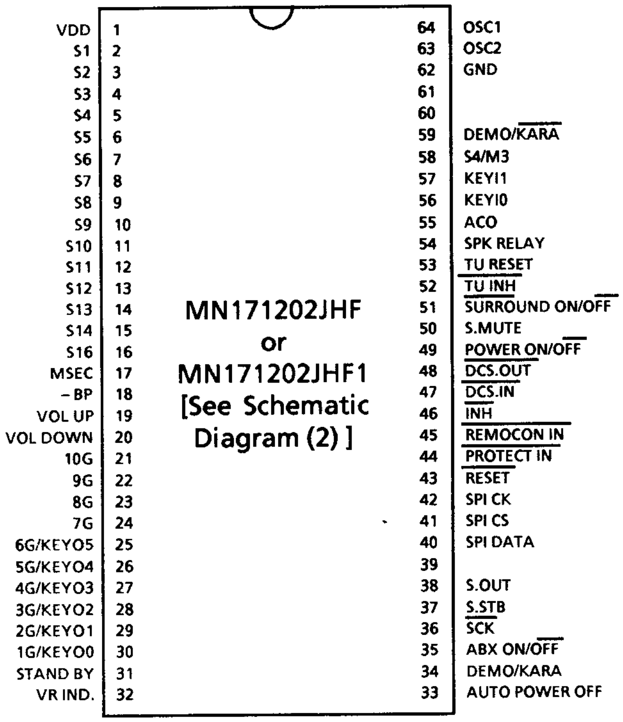
FM feeder antenna (1)
AM loop antenna (1)
Remote control (RM-SEMXS4U) (1)
Batteries R03(UM-4)/AAA(24F) (2)
Antenna adaptor (1)

Design and specifications subject to change without notice.

Description of ICs

■ MN171202JHF (IC901) : System controller

1.Terminal Layout


VDD 1
S1 2
S2 3
S3 4
S4 5
S5 6
S6 7
S7 8
S8 9
S9 10
S10 11
S11 12
S12 13
S13 14
S14 15
S16 16
MSEC 17
– BP 18
VOL UP 19
VOL DOWN 20
10G 21
9G 22
8G 23
7G 24
6G/KEYO5 25
5G/KEYO4 26
4G/KEYO3 27
3G/KEYO2 28
2G/KEYO1 29
1G/KEYO0 30
STAND BY 31
VR IND. 32
64 OSC1
63 OSC2
62 GND
61
60
59 DEMO/KARA
58 S4/M3
57 KEYI1
56 KEYI0
55 ACO
54 SPK RELAY
53 TU RESET
52 TU INH
51 SURROUND ON/OFF
50 S.MUTE
49 POWER ON/OFF
48 DCS.OUT
47 DCS.IN
46 INH
45 REMOCON IN
44 PROTECT IN
43 RESET
42 SPI CK
41 SPI CS
40 SPI DATA
39
38 S.OUT
37 S.STB
36 SCK
35 ABX ON/OFF
34 DEMO/KARA
33 AUTO POWER OFF
MN171202JHF
or
MN171202JHF1
[See Schematic
Diagram (2)]

2.Key Matrix

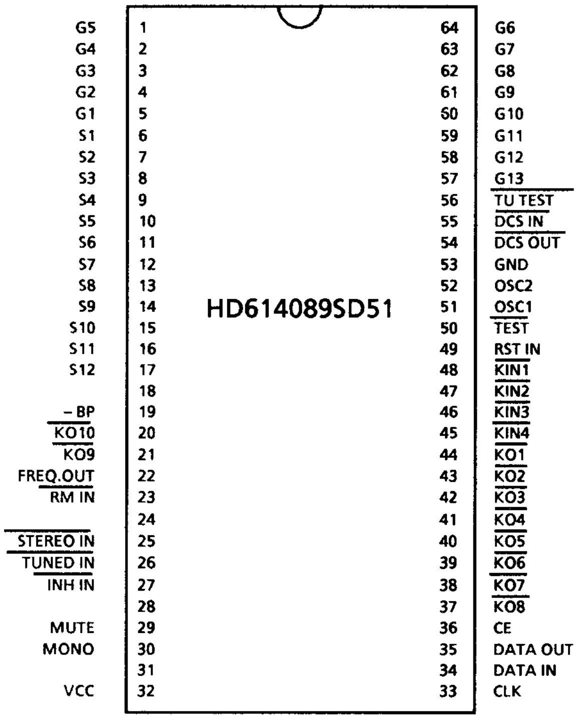
	KEY IN 0 (PIN56)	KEY IN 1 (PIN57)
KEY OUT 0 (PIN30)	POWER	AUTO POWER OFF
KEY OUT 1 (PIN29)	AUX	PHONO
KEY OUT 2 (PIN28)	ACTIVE BASS EXTENTION	OFF
KEY OUT 3 (PIN27)	PRESET ◀	PRESET ▶
KEY OUT 4 (PIN26)	MODE	LIVE SURROUND
KEY OUT 5 (PIN25)	MSEC/DEMO (MSEC)	VOCAL MASKING (DEMO)

3.Terminal Description

Pin NO.	Symbol	I/O	Function and Operations	Pin NO.	Symbol	I/O	Function and Operations
1	VDD	--	Power supply	33	A.P.OFF	O	Indication control for 'AUTO POWER OFF'
2	S1	O	Segment control signal	34	DEMO/KARA	O	Indication control for 'DEMO'
3	S2	O	Segment control signal	35	ABX on/off	O	'ABX' control signal
4	S3	O	Segment control signal	36	SCK	O	Clock output for IC501 and IC512
5	S4	O	Segment control signal	37	S.STB	O	Strobe signal for IC501 and IC512
6	S5	O	Segment control signal	38	S.OUT	O	Data for IC501 and IC512
7	S6	O	Segment control signal	39	—	--	Non connection
8	S7	O	Segment control signal	40	SPI DATA	I/O	Peak level data / Control data for IC001
9	S8	O	Segment control signal	41	SPI CS	O	Chip select signal for IC001
10	S9	O	Segment control signal	42	SPI CK	O	Clock output for IC001
11	S10	O	Segment control signal	43	RESET	I	Reset signal input
12	S11	O	Segment control signal	44	PRT. IN	I	Detection for protector
13	S12	O	Segment control signal	45	RM. IN	I	Remote control signal input
14	S13	O	Segment control signal	46	INH	I	Inhibit signal input
15	S14	O	Segment control signal	47	DCS IN	I	Compulink signal input
16	S16	O	Segment control signal	48	DCS OUT	O	Compulink signal output
17	MSEC	O	Indication control for 'MSEC'	49	P.CONT	O	Power control signal to deck controller
18	– BP	--	Power supply for fl display	50	S.MUTE	O	Muting signal when changing the source
19	VOL UP	O	Volume control signal	51	SURR	O	'SURROUND' control signal
20	VOL DOWN	O	Volume control signal	52	T.INH	O	Inhibit signal for tuner
21	10G	O	Grid control signal	53	T.RST	O	Reset signal for tuner
22	9G	O	Grid control signal	54	SPK	O	Speaker relay control signal
23	8G	O	Grid control signal	55	ACO	O	Regulator control signal
24	7G	O	Grid control signal	56	KEYI0	I	Key martrix input
25	6G/KEYO5	O	Grid control signal (Key matrix out)	57	KEYI1	I	Key martrix input
26	5G/KEYO4	O	Grid control signal (Key matrix out)	58	S4/M3	I	Chip select
27	4G/KEYO3	O	Grid control signal (Key matrix out)	59	DEMO/KARA	I	Chip select
28	3G/KEYO2	O	Grid control signal (Key matrix out)	60	—	--	Connected to GND
29	2G/KEYO1	O	Grid control signal (Key matrix out)	61	—	--	Non connection
30	1G/KEYO0	O	Grid control signal (Key matrix out)	62	GND	--	GND
31	STAND BY	O	Indication control signal	63	OSC2	--	Oscillation terminal
32	VR IND.	O	Indication control signal	64	OSC1	--	Oscillation terminal

■ HD614089SD51 (IC201) : Tuner controller

1.Terminal Layout


G5
G4
G3
G2
G1
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
– BP
KO10
KO9
FREQ.OUT
RM IN
STEREO IN
TUNED IN
INH IN
MUTE
MONO
VCC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
HD614089SD51
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52
51
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49
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46
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44
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42
41
40
39
38
37
36
35
34
33
G6
G7
G8
G9
G10
G11
G12
G13
TU TEST
DCS IN
DCS OUT
GND
OSC2
OSC1
TEST
RST IN
KIN1
KIN2
KIN3
KIN4
KO1
KO2
KO3
KO4
KO5
KO6
KO7
KO8
CE
DATA OUT
DATA IN
CLK

2.Key Matrix

	KEY IN 1 (PIN48)	KEY IN 2 (PIN47)	KEY IN3 (PIN46)	KEY IN4 (PIN45)
KEY OUT 1 (PIN44)	—	TIMER1	TIMER2	DAILY
KEY OUT 2 (PIN43)	WAKE-UP/ SLEEP	CLOCK ADJ	CANCEL	MEMORY
KEY OUT 3 (PIN42)	TUNING /TIMER /DIMMER UP	TUNING /TIMER /DIMMER DOWN	PRESET UP	PRESET DOWN
KEY OUT 4 (PIN41)	FM	AM	FM MODE /MUTE	PRESET SCAN
KEY OUT 7 (PIN38)	—	—	+ 10	—

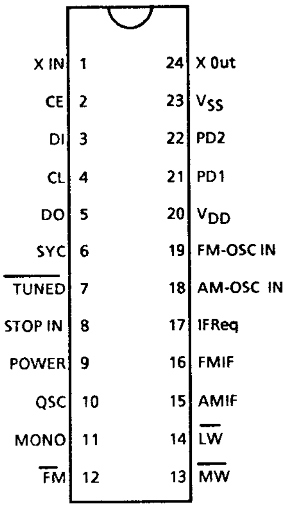
3.Terminal Description

Pin NO.	Symbol	I/O	Function and Operations	Pin NO.	Symbol	I/O	Function and Operations
1	G5	O	Grid control signal	33	CLK	O	Clock for data transmission
2	G4	O	Grid control signal	34	DATA IN	I	Data from PLL synthesizer
3	G3	O	Grid control signal	35	DATA OUT	O	Data for PLL synthesizer
4	G2	O	Grid control signal	36	CE	O	Chip enable signal output
5	G1	O	Grid control signal	37	KO8	O	Key matrix output
6	S1	O	Segment control signal	38	KO7	O	Key matrix output
7	S2	O	Segment control signal	39	KO6	–	Non connection
8	S3	O	Segment control signal	40	KO5	–	Non connection
9	S4	O	Segment control signal	41	KO4	O	Key matrix output
10	S5	O	Segment control signal	42	KO3	O	Key matrix output
11	S6	O	Segment control signal	43	KO2	O	Key matrix output
12	S7	O	Segment control signal	44	KO1	O	Key matrix output
13	S8	O	Segment control signal	45	KIN4	I	Key matrix input
14	S9	O	Segment control signal	46	KIN3	I	Key matrix input
15	S10	O	Segment control signal	47	KIN2	I	Key matrix input
16	S11	O	Segment control signal	48	KIN1	I	Key matrix input
17	S12	O	Segment control signal	49	RST IN	I	Reset signal input
18	–	–	Non connection	50	TEST	I	Test mode terminal
19	– BP	–	Power supply for FL display	51	OSC1	–	Oscillation terminal
20	KO10	–	Non connection	52	OSC2	–	Oscillation terminal
21	KO9	–	Non connection	53	GND	–	GND
22	FREQ.OUT	O	Frequency for clock output	54	DCS OUT	O	Compulink signal output
23	RM IN	I	Not used	55	DCS IN	I	Compulink signal input
24	–	–	Connected to GND	56	TU TEST	I	Test mode terminal
25	STEREO IN	I	Indication control signal	57	G13	O	Grid control signal
26	TUNED IN	I	Indication control signal	58	G12	O	Grid control signal
27	INH IN	I	Inhibit signal input	59	G11	O	Grid control signal
28	–	–	Non connection	60	G10	O	Grid control signal
29	MUTE	O	Muting signal output	61	G9	O	Grid control signal
30	MONO	–	Non connection	62	G8	O	Grid control signal
31	–	–	Non connection	63	G7	O	Grid control signal
32	VCC	–	Power supply	64	G6	O	Grid control signal

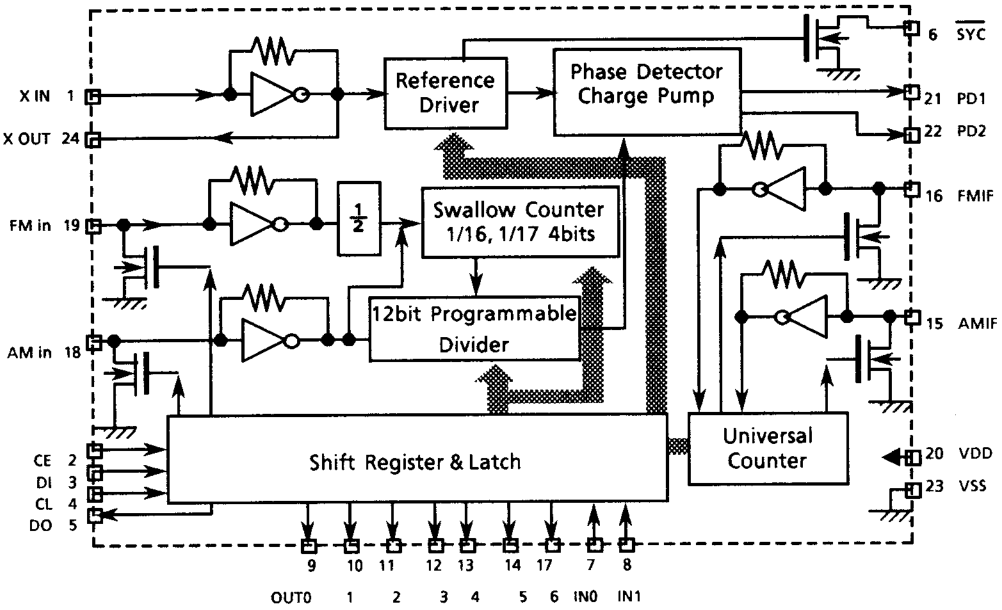
■ LC7218 (IC102) : PLL Synthesizer

1. The main function descriptions
   (1) It makes the local oscillation frequency by the control data from IC201.
   (2) Decode the control signal and transmit the signal for receiving conditions.
   (3) For the best tuning, count the internal-frequency and transmit the data to IC201.

2. Terminal Layout


X IN 1
CE 2
DI 3
CL 4
DO 5
SYC 6
TUNED 7
STOP IN 8
POWER 9
QSC 10
MONO 11
FM 12
24 X Out
23 Vss
22 PD2
21 PD1
20 VDD
19 FM-OSC IN
18 AM-OSC IN
17 IFReq
16 FMIF
15 AMIF
14 LW
13 MW

3. Block Diagram


X IN 1
X OUT 24
FM in 19
AM in 18
CE 2
DI 3
CL 4
DO 5
Reference Driver
Phase Detector Charge Pump
1/2
Swallow Counter 1/16, 1/17 4bits
12bit Programmable Divider
Shift Register & Latch
Universal Counter
6 SYC
21 PD1
22 PD2
16 FMIF
15 AMIF
20 VDD
23 VSS
9 10 11 12 13 14 17 7 8
OUT0 1 2 3 4 5 6 IN0 IN1

4. Terminal Description

Pin No.	Symbol	I/O	Functions and Operations
1,24	X in , X out	I/O	Crystal oscillator (7.2MHz).
2	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	I	Receive the control data from the controller (IC201).
4	CL	I	This clock is used to synchronize data when transmitting the data of DI and DO.
5	DO	O	Transmit the data from LC7218 to the controller which is synchronized with CL.
6	SYC	–	Not used.
7	Tuned	I	Receive the tuned signal from IC104 (LA1266A).
8	Stop in	I	Not used.
9	POWER	O	Not used.
10	QSC	O	ON mode with " H " and OFF mode with " L ".
11	MONO	O	It is "H" on FM-monaural, "L" on FM-Stereo.
12	FM	O	It is "L" on FM mode.
13	MW	O	It is "L" on MW mode.
14	LW	–	It is "L" on LW mode.
15	AM-IF	I	Universal counter input for AM-IF from IC104 (LA1266A).
16	FM-IF	I	Universal counter input for FM-IF from IC104(LA1266A).
17	IF REQ	O	Output the "IF-signal request" to IC104 when the pin-7 (tuned in) goes to "H".
18	AM OSC	I	Input the local oscillator signal of AM.
19	FM OSC	I	Input the local oscillator signal of FM.
20	V_{DD}	–	This is a terminal of power supply.
21	PD1	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	O	Not used.
23	Vss	–	Power supply.

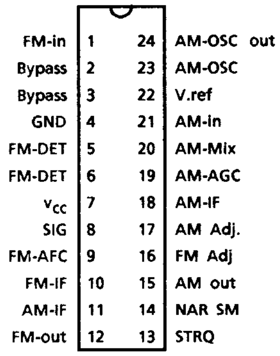
■ LA1266A (IC104) : FM AM IF AMP & detector

1. The main function descriptions

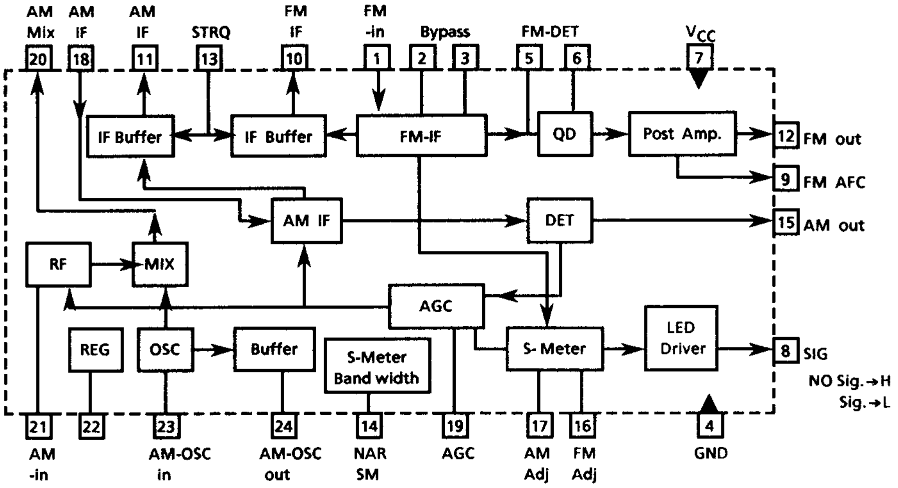
   (1) Amplify and detect of FM intermodulation frequencies.

   (2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

2. Terminal Layout


FM-in 1
Bypass 2
Bypass 3
GND 4
FM-DET 5
FM-DET 6
V_{CC} 7
SIG 8
FM-AFC 9
FM-IF 10
AM-IF 11
FM-out 12
24 AM-OSC out
23 AM-OSC
22 V.ref
21 AM-in
20 AM-Mix
19 AM-AGC
18 AM-IF
17 AM Adj.
16 FM Adj
15 AM out
14 NAR SM
13 STRQ

3. Block Diagram


AM Mix 20
AM IF 18
AM IF 11
STRQ 13
FM IF 10
FM -in 1
Bypass 2 3
FM-DET 5 6
V_{CC} 7
IF Buffer
IF Buffer
FM-IF
QD
Post Amp.
12 FM out
9 FM AFC
AM IF
DET
15 AM out
RF
MIX
AGC
REG
OSC
Buffer
S-Meter Band width
S- Meter
LED Driver
8 SIG
NO Sig.→H
Sig.→L
21 AM -in
22
23 AM-OSC in
24 AM-OSC out
14 NAR SM
19 AGC
17 AM Adj
16 FM Adj
4 GND

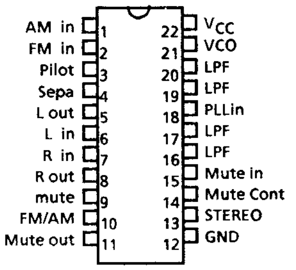
4. Terminal Description

Pin No.	Symbol	I/O	Functions and Operations
1	FM in	I	This is an input terminal of FM IF Signal.
2,3	Bypass	--	Bypass of FM IF Amp.
4	GND	--	This is the device ground terminal.
5,6	FM DET	--	FM detect transformer.
7	V_{CC}	--	This is the power supply terminal.
8	SIG	O	When the machine is tunning ,this terminal becomes "L".
9	FM AFC	O	This is an output terminal of voltage for FM - AFC(Auto frequency control).
10	FM IF	O	When the signal of IF REQ of IC102(LC7218) appear, the signal of FM IF outputt.
11	AM IF	O	When the signal of IF REQ of IC102(LC7218) appear, the signal of AM IF output.
12	FM out	O	FM composite signal output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal going to "High".
14	NAR SM	--	Control the Band-width of signal meter.
15	AM out	O	AM detection output.
16	FM Adj	--	For adjust the stop level (or mute level) of FM.
17	AM Adj	--	For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	V.REF	--	Register value between pin9 and pin22 desides the frequency width of the input signal.
23	AM-OSC	--	This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

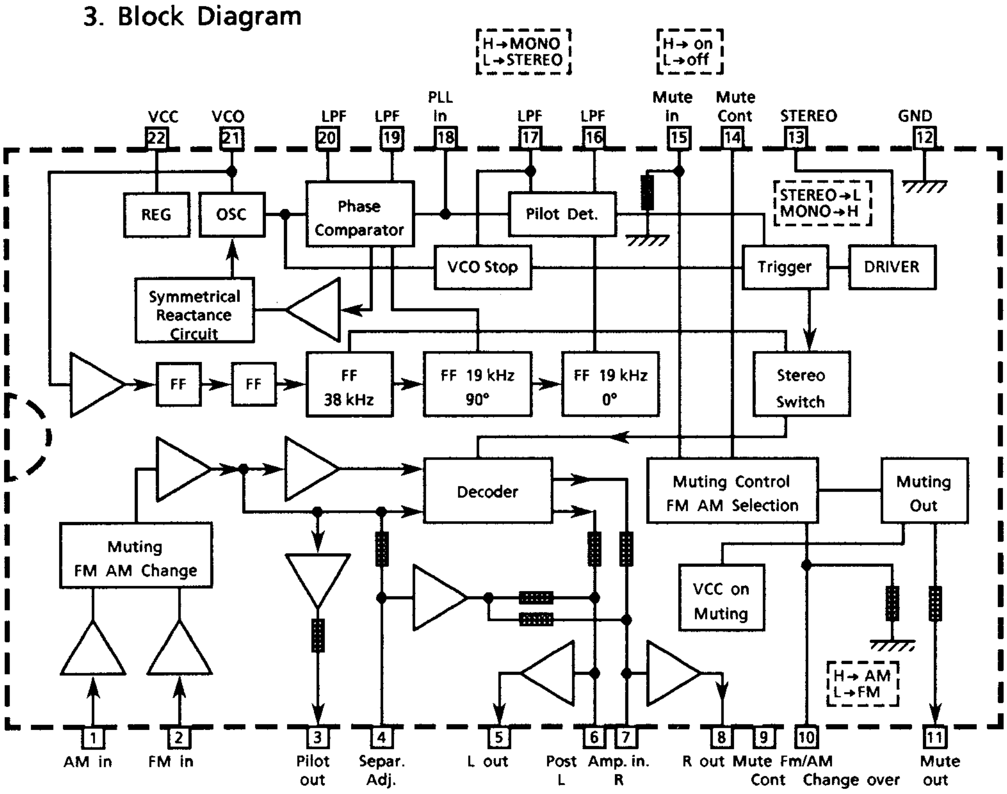
■ LA3401 (IC105) : FM MPX Detector

1. The main function descriptions
   (1) Detect the FM multiplex signal (Stereo signal).
   (2) When receiving FM stereo signal, it outputs the signal for indication.
   (3) AM / FM audio amplifier.

2. Terminal Layout


AM in 1
FM in 2
Pilot 3
Sepa 4
L out 5
L in 6
R in 7
R out 8
mute 9
FM/AM 10
Mute out 11
22 Vcc
21 VCO
20 LPF
19 LPF
18 PLLin
17 LPF
16 LPF
15 Mute in
14 Mute Cont
13 STEREO
12 GND

3. Block Diagram

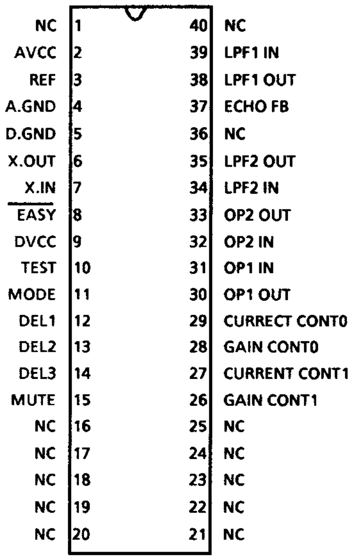

H→MONO
L→STEREO
H→ on
L→off
VCC 22
VCO 21
LPF 20
LPF 19
PLL In 18
LPF 17
LPF 16
Mute In 15
Mute Cont 14
STEREO 13
GND 12
REG
OSC
Phase Comparator
Pilot Det.
STEREO→L
MONO→H
VCO Stop
Trigger
DRIVER
Symmetrical Reactance Circuit
FF
FF
FF 38 kHz
FF 19 kHz 90°
FF 19 kHz 0°
Stereo Switch
Decoder
Muting Control FM AM Selection
Muting Out
Muting FM AM Change
VCC on Muting
H→ AM
L→FM
1 AM in
2 FM in
3 Pilot out
4 Separ. Adj.
5 L out
6 Post L
7 Amp. in. R
8 R out
9 Mute Cont
10 Fm/AM Change over
11 Mute out

4. Terminal Description

Pin No.	Symbol	I/O	Functions and Operations
1	AM in	I	This is an input terminal for AM detection signal.
2	FM in	I	This is an input terminal for FM detection signal.
3	Composite out	O	Output of the composite signal (Connect to Pin18).
4	Sepa. Adj.	--	Separation adjustment.
5	L. out	O	Left channel signal output.
6	L	I	Input terminal of the left channel post-amplifier
7	R	I	Input terminal of the right channel post-amplifier
8	R out	O	Right channel signal output
9	Mute Cont	--	The mute time is controlled by the connected capacitor when turning the power switch on.
10	FM / AM	I	Change over the FM / AM input. "H" : AM, "L" : FM
11	Mute out	---	Not used
12	GND	--	Ground terminal.
13	Stereo	O	Stereo indicator output. Stereo : "L", Mono : "H"
14	Mute Cont	--	The mute time is controlled by the connected capacitor when changing over the FM / AM .
15	Mute in	I	Mute signal input. "H" : Mute on, "L" : Mute off.
16	LPF	--	Low pass filter of pilot detector.
17	LPF	--	While this terminal goes to "H", the VCO stops.
18	PLL in	I	Composite signal input
19	LPF	--	Low-pass filter of PLL.
20	LPF	--	Low-pass filter of PLL.
21	VCO	I	Voltage controlled oscillator terminal.
22	V_{CC}	--	Power supply.

■ M50197P (IC050) : Digital Delay IC (Only for universal and Taiwan versions)

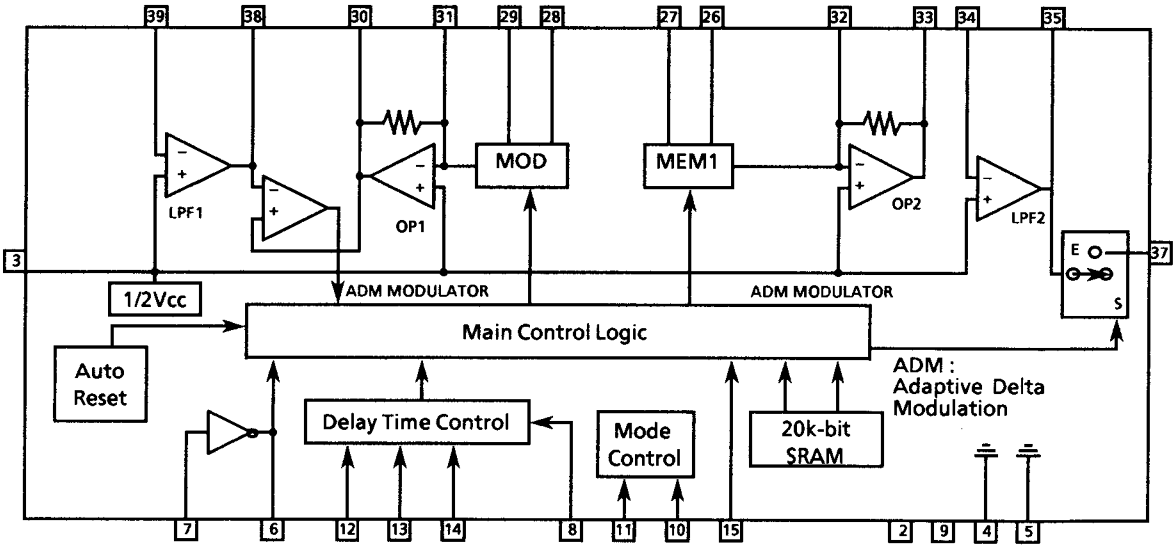
1. Terminal Layout


NC 1
AVCC 2
REF 3
A.GND 4
D.GND 5
X.OUT 6
X.IN 7
EASY 8
DVCC 9
TEST 10
MODE 11
DEL1 12
DEL2 13
DEL3 14
MUTE 15
NC 16
NC 17
NC 18
NC 19
NC 20
21 NC
22 NC
23 NC
24 NC
25 NC
26 GAIN CONT1
27 CURRENT CONT1
28 GAIN CONT0
29 CURRECT CONT0
30 OP1 OUT
31 OP1 IN
32 OP2 IN
33 OP2 OUT
34 LPF2 IN
35 LPF2 OUT
36 NC
37 ECHO FB
38 LPF1 OUT
39 LPF1 IN
40 NC

2.Terminal Functions

Pin No	Symbol	Function	Pin No	Symbol	Function
1,40	NC	Non connection	16~25	NC	Non connection
2	AVCC	Power Supply	26	GAIN CONT1	Gain control
3	REF	Reference voltage	27	CURR. CONT1	ADM control
4	AGND	Ground	28	GAIN CONT0	Gain control
5	DGND	Digital ground	29	CURR. CONT0	ADM control
6	xout	Oscillation terminal	30	OP1 OUT	OP amp output
7	XIN	Oscillation terminal	31	OP1 IN	OP amp input
8	EASY	Interface select	32	OP2 IN	OP amp input
9	VDD	Power supply	33	OP2 OUT	OP amp output
10	TEST	Connected to GND	34	LPF2 IN	Filter input
11	MODE	Connected to 5V	35	LPF2 OUT	Filter output
12	DEL1	Connected to 5V	36	NC	Non connection
13	DEL2	Connected to 5V	37	ECHO FB	Echo feedback
14	DEL3	Connected to 5V	38	LPF1 OUT	Filter output
15	MUTE	Connected to GND	39	LPF1 IN	Filter input

3. Internal Block Diagram


39
38
30
31
29
28
27
26
32
33
34
35
LPF1
OP1
MOD
MEM1
OP2
LPF2
3
37
E
S
1/2Vcc
ADM MODULATOR
ADM MODULATOR
Main Control Logic
Auto Reset
Delay Time Control
Mode Control
20k-bit SRAM
ADM : Adaptive Delta Modulation
7
6
12
13
14
8
11
10
15
2
9
4
5

4. Operation

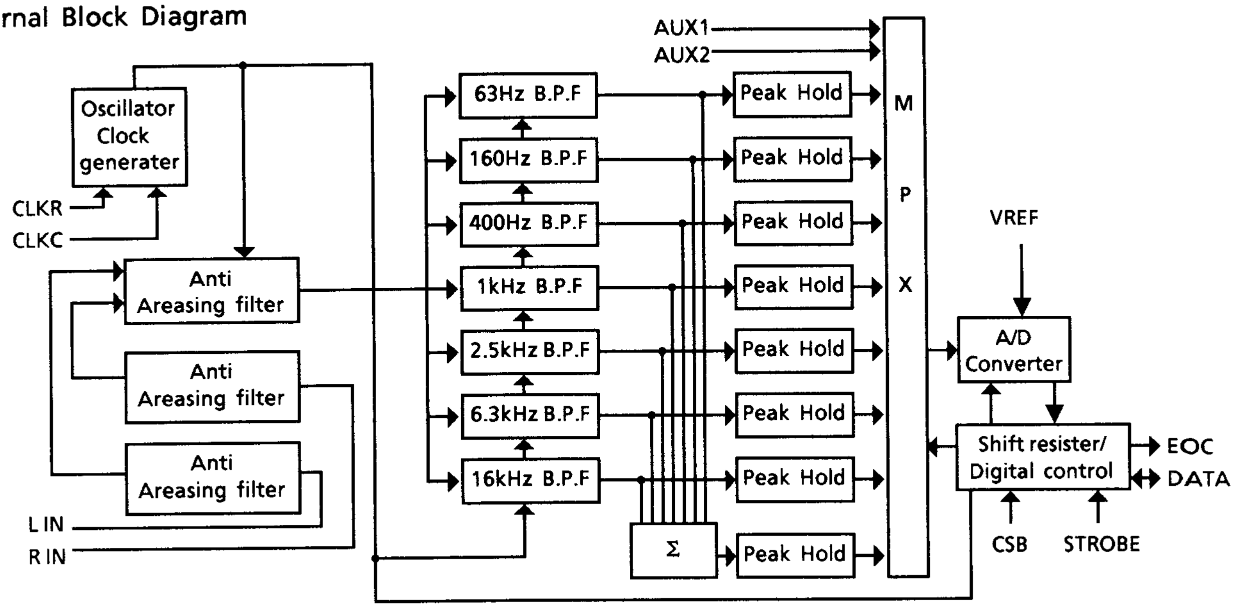
1) This ic has 2 modes, one of which is echo mode and the other is surround mode. Following table shows the differences between the two modes.

2) When EASY is 'H', DEL1, DEL2and DEL3 are used as REQ, SECK and SEDATA. In this case, SEDATA which is used to set the mode and delay time previously mentioned, is read at the falling edge of SECK while REQ is 'L'.

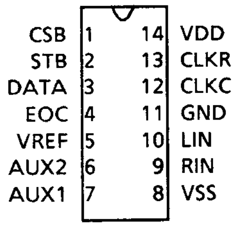
DEL1 PIN12	DEL2 Pin13	DEL3 Pin14	Surround mode(Pin11 = L)		Echo mode (Pin11 = H)	
			Sampling frequency	Delay time (mSEC)	Sampling frequency	Delay time (mSEC)
L	L	L	500kHz	4.1	250kHz	20.5
H	H	L	500kHz	10.2	250kHz	41.0
H	L	L	500kHz	14.3	250kHz	61.4
L	H	L	500kHz	20.5	250kHz	81.9
H	L	H	500kHz	24.6	125kHz	98.3
L	L	H	500kHz	30.7	125kHz	122.9
L	H	H	500kHz	34.8	125kHz	139.3
H	H	H	500kHz	41.0	125kHz	163.8

■ XR1097CP(IC001) : 7-channel graphic equalizer filter with A/D converter

1.Internal Block Diagram


AUX1
AUX2
Oscillator Clock generater
CLKR
CLKC
Anti Areasing filter
Anti Areasing filter
Anti Areasing filter
L IN
R IN
63Hz B.P.F
160Hz B.P.F
400Hz B.P.F
1kHz B.P.F
2.5kHz B.P.F
6.3kHz B.P.F
16kHz B.P.F
Σ
Peak Hold
Peak Hold
Peak Hold
Peak Hold
Peak Hold
Peak Hold
Peak Hold
Peak Hold
M
P
X
VREF
A/D Converter
Shift resister/ Digital control
EOC
DATA
CSB
STROBE

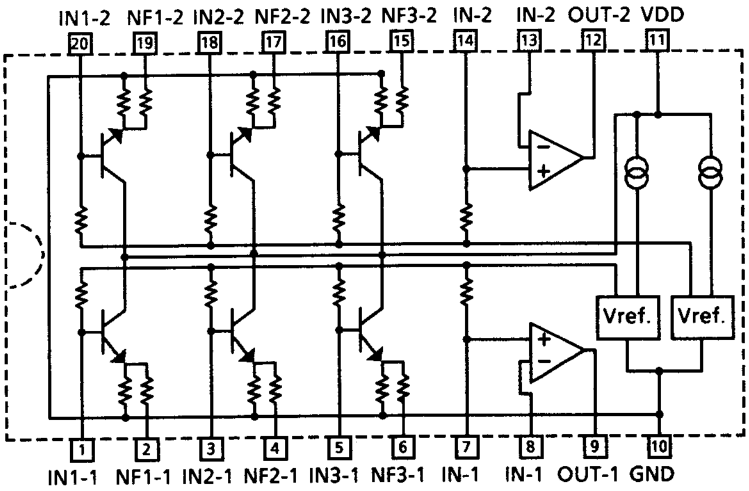
2.Terminal Layout


CSB 1
STB 2
DATA 3
EOC 4
VREF 5
AUX2 6
AUX1 7
14 VDD
13 CLKR
12 CLKC
11 GND
10 LIN
9 RIN
8 VSS

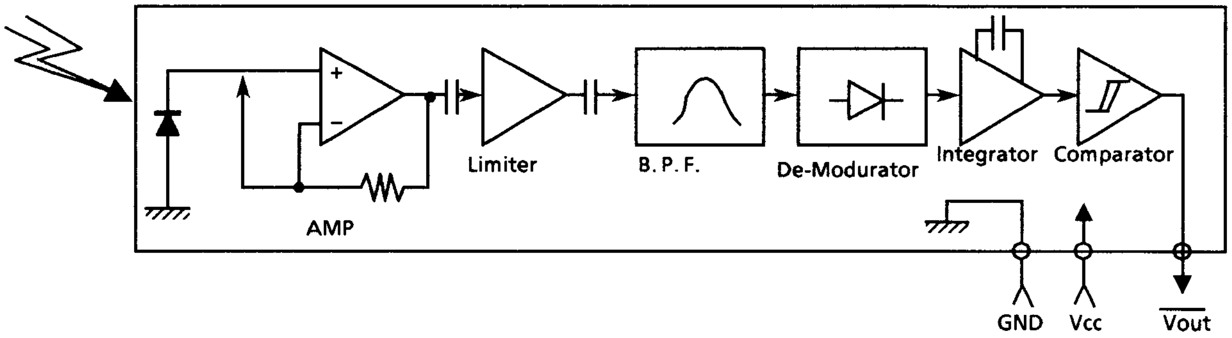
3.Terminal Description

Pin No	Symbol	I/O	Function	Pin No	Symbol	I/O	Function
1	CSB	I	Chip select	8	VSS	–	–5V
2	STB	I	Strobe signal	19	RIN	I	Sound signal input
3	DATA	I/O	Data input / output	10	LIN	I	Connected to GND
4	EOC	–	Non connection	11	GND	–	GND
5	VREF	I	A/D converter reference voltage	12	CLKC	–	A capacitor is connected
6	AUX2	I	Non connection	13	CLKR	–	A resister is connected
7	AUX1	I	Non connection	14	VDD	–	+5V

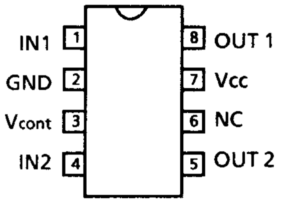
■ M5243P (IC511) : S.E.A. Graphic Equalizer


IN1-2
NF1-2
IN2-2
NF2-2
IN3-2
NF3-2
IN-2
IN-2
OUT-2
VDD
20
19
18
17
16
15
14
13
12
11
Vref.
Vref.
1
2
3
4
5
6
7
8
9
10
IN1-1
NF1-1
IN2-1
NF2-1
IN3-1
NF3-1
IN-1
IN-1
OUT-1
GND

■ SPS-420-1 (IC910) : Receiver for Remote Controller


+
−
AMP
Limiter
B. P. F.
De-Modurator
Integrator
Comparator
GND
Vcc
$\overline{\text{Vout}}$

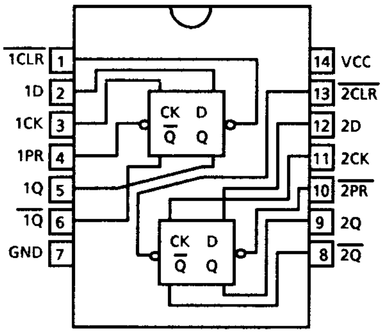
■ LB1639-CV (IC671) : Motor Driver


IN1 1
GND 2
Vcont 3
IN2 4
8 OUT 1
7 Vcc
6 NC
5 OUT 2

IN 1	IN 2	OUT 1	OUT 2	MOTOR
H	L	H	L	CLOCKWISE
L	H	L	H	COUNTER-CLOCKWISE
H	H	OFF	OFF	WAITING
L	L	OFF	OFF	WAITING

■TC74HC74AP(IC953) : DUAL D FLIP FLOP WITH PRESET AND CLEAR

1. Terminal Layout


$\overline{\text{1CLR}}$ 1
1D 2
1CK 3
1PR 4
1Q 5
$\overline{\text{1Q}}$ 6
GND 7
14 VCC
13 $\overline{\text{2CLR}}$
12 2D
11 2CK
10 $\overline{\text{2PR}}$
9 2Q
8 $\overline{\text{2Q}}$
CK D
$\overline{\text{Q}}$ Q
CK D
$\overline{\text{Q}}$ Q

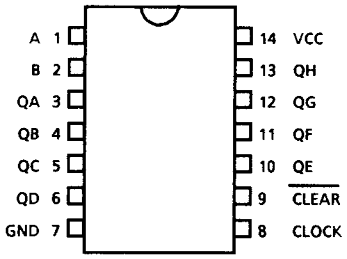
2. Function Table

INPUTS				OUTPUTS		FUNCTION
$\overline{\text{CLR}}$	$\overline{\text{PR}}$	D	CK	Q_n	$\overline{Q}_n$	
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	—
H	H	L	↑	L	H	—
H	H	H	↑	H	L	—
H	H	X	↓	Q_{n-1}	$\overline{Q_{n-1}}$	NO CHANGE

X :Don't care

■TC74HC164AP (IC954) : 8-Bit Shift register

1. Terminal Layout


A 1
B 2
QA 3
QB 4
QC 5
QD 6
GND 7
14 VCC
13 QH
12 QG
11 QF
10 QE
9 $\overline{\text{CLEAR}}$
8 CLOCK

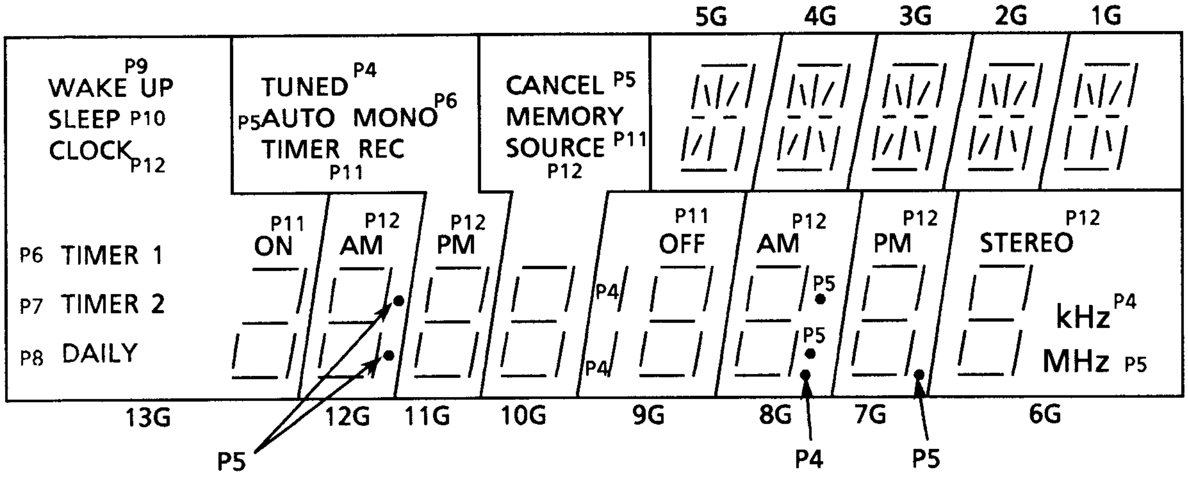
2. Function Table

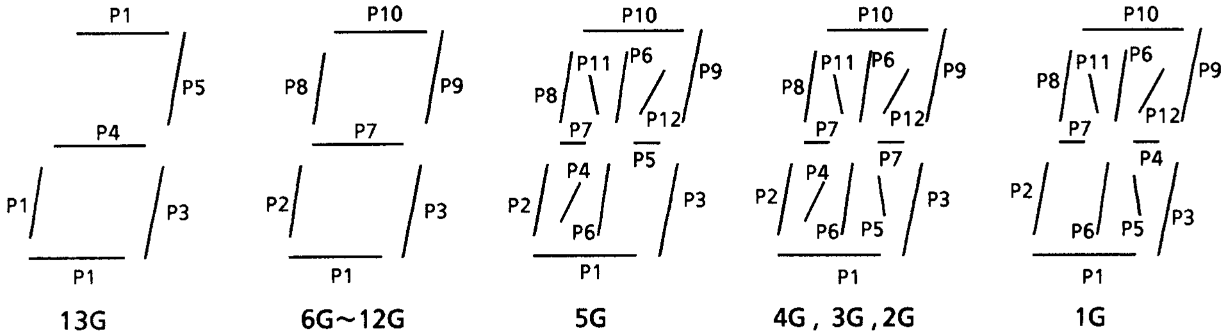
Inputs				Outputs			
$\overline{\text{CLR}}$	CLK	SERIAL IN		QAn	QBn	······	QHn
		A	B				
L	×	×	×	L	L	······	L
H	↓	×	×	No change			
H	↑	L	×	L	QA_{n-1}	······	QG_{n-1}
H	↑	X	L	L	QA_{n-1}	······	QG_{n-1}
H	↑	H	H	H	QA_{n-1}	······	QG_{n-1}

X :Don't care

Internal Connection of FL Display

■ ELU0001-150 (FL201)


5G
4G
3G
2G
1G
P9
WAKE UP
SLEEP P10
CLOCK P12
TUNED P4
P5 AUTO MONO P6
TIMER REC
P11
CANCEL P5
MEMORY
SOURCE P11
P12
P6 TIMER 1
P7 TIMER 2
P8 DAILY
P11 ON
P12 AM
P12 PM
P4
P4
P11 OFF
P12 AM
P5
P5
P12 PM
P12 STEREO
kHz P4
MHz P5
13G
12G
11G
10G
9G
8G
7G
6G
P5
P4
P5

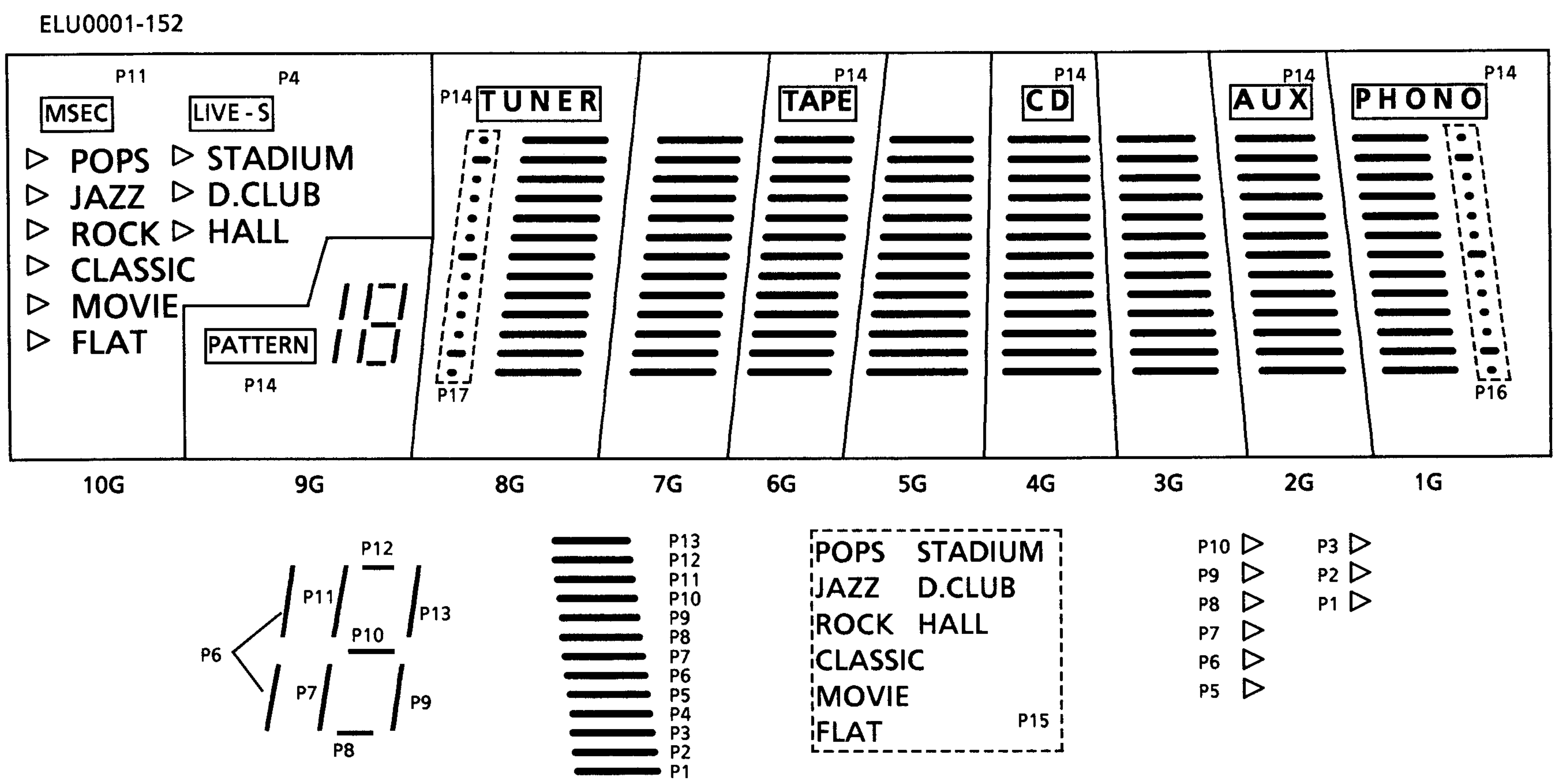

P1
P5
P4
P1
P3
P1
P10
P8
P9
P7
P2
P3
P1
P10
P11
P6
P8
P9
P12
P7
P5
P4
P2
P3
P6
P1
P10
P11
P6
P8
P9
P12
P7
P7
P4
P2
P3
P6
P5
P1
P10
P11
P6
P8
P9
P12
P7
P4
P2
P3
P6
P5
P1
13G
6G~12G
5G
4G, 3G, 2G
1G

PIN CONNECTION

TERMINAL NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
ELECTRODE	F1	F1	NP	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G				
TERMINAL NO						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ELECTRODE						P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	NP	F2	F2

F : Filament G : Grid P : Anode NP : No Pin

■ ELU0001-152 (FL901)


ELU0001-152
P11
MSEC
P4
LIVE - S
▷ POPS ▷ STADIUM
▷ JAZZ ▷ D.CLUB
▷ ROCK ▷ HALL
▷ CLASSIC
▷ MOVIE
▷ FLAT
PATTERN
P14
P14
TUNER
P17
P14
TAPE
P14
CD
P14
AUX
P14
PHONO
P16
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G
P12
P11
P13
P10
P6
P7
P9
P8
P13
P12
P11
P10
P9
P8
P7
P6
P5
P4
P3
P2
P1
POPS STADIUM
JAZZ D.CLUB
ROCK HALL
CLASSIC
MOVIE
FLAT
P15
P10 ▷
P9 ▷
P8 ▷
P7 ▷
P6 ▷
P5 ▷
P3 ▷
P2 ▷
P1 ▷

Pin Connection

Terminal No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
ELECTRODE	F1	F1	NP	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16
Terminal No	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
ELECTRODE	P17	NP	NP	NP	NP	NP	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F2	F2

Note : F:Filament NP:No Pin G: Grid P: Anode

Disassembly Procedures

■ Removing the metal cover

1. Remove the 6 screws Ⓐ fastening the both sides and back of the metal cover to remove the cover.

■ Removing the front panel assembly

1. Remove the metal cover.
2. Disconnect the connectors J702, BC701, JA901 and P671.
3. Remove the screw Ⓑ.
4. Release the 3 hooks to remove the assembly.

■ Removing the rear panel

1. Remove the 2 screws Ⓓ in the broken line to remove the heat sink cover (Figure 3).
2. Remove the other screws Ⓓ.
3. Release the 2 hooks to remove the rear panel.

■ Removing the main circuit board

1. Remove the metal cover.
2. Remove the rear panel.
3. Remove the source selector & sea circuit board with the sub sea circuit board.
4. Remove the 3 screws Ⓒ fixing the main circuit board to remove the circuit board.
   (If necessary, remove the circuit boards on the main circuit board.)

■ Removing the display circuit board

1. Remove the front panel assembly.
2. Remove the mic mixing knob.
   (Except the U.S. version)
3. Remove the 1 screw Ⓔ fixing the mic mixing circuit board to remove the mic mixing circuit board (Except the U.S. version).
4. Remove the other screws Ⓔ to remove the circuit board.
   (Take care not to damage the pins of JA902 when disconnecting it.)

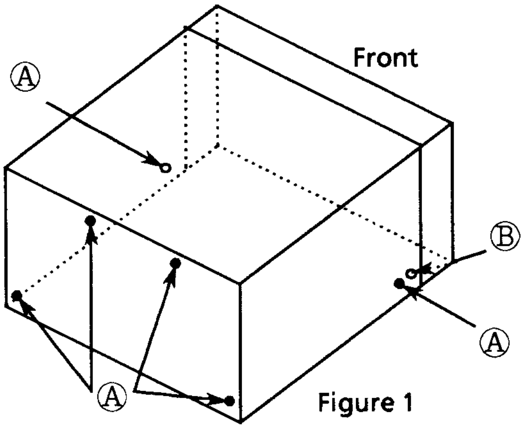


Figure 1

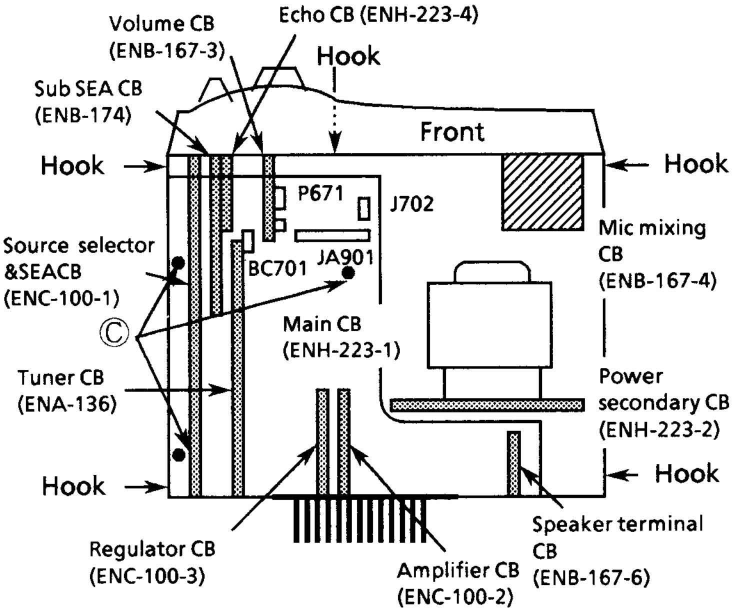

Volume CB
(ENB-167-3)
Echo CB (ENH-223-4)
Hook
Sub SEA CB
(ENB-174)
Front
Hook
Hook
P671
J702
Mic mixing
CB
(ENB-167-4)
Source selector
&SEACB
(ENC-100-1)
BC701
JA901
Ⓒ
Main CB
(ENH-223-1)
Tuner CB
(ENA-136)
Power
secondary CB
(ENH-223-2)
Hook
Hook
Speaker terminal
CB
(ENB-167-6)
Regulator CB
(ENC-100-3)
Amplifier CB
(ENC-100-2)

Figure 2 Top view

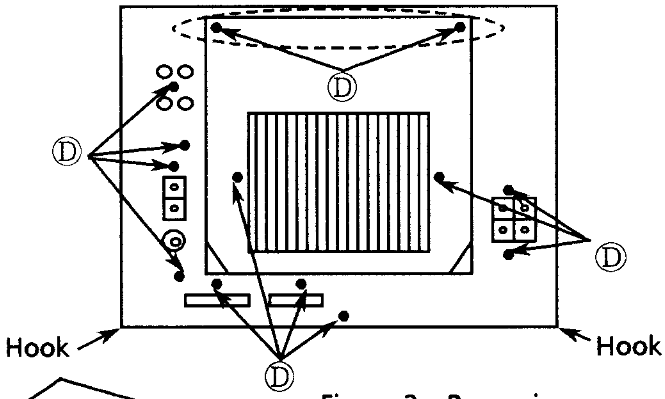


Figure 3 Rear view

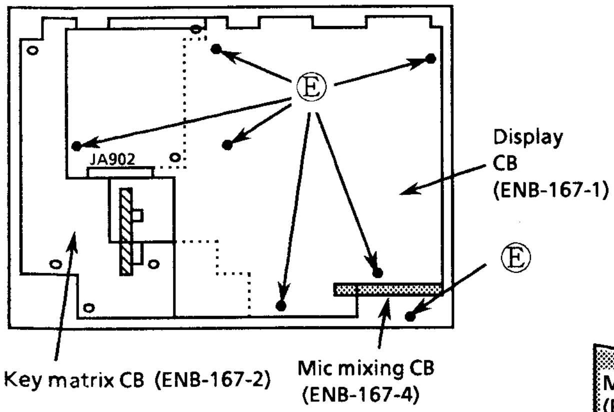

Ⓔ
JA902
Display
CB
(ENB-167-1)
Ⓔ
Key matrix CB (ENB-167-2)
Mic mixing CB
(ENB-167-4)

Figure 4 Behind the front panel assembly

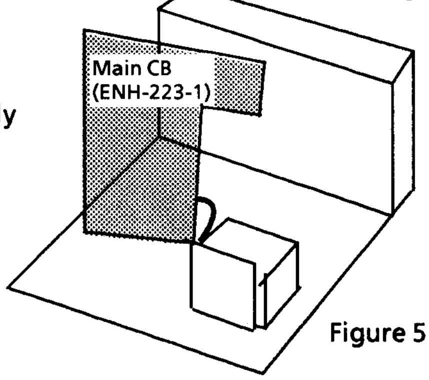
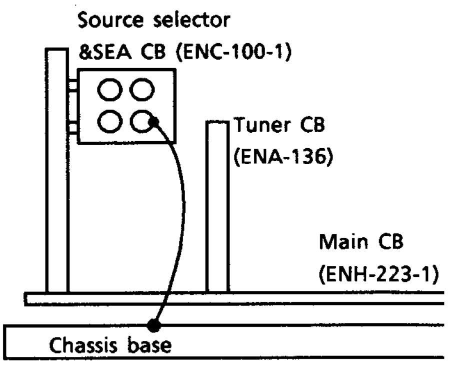
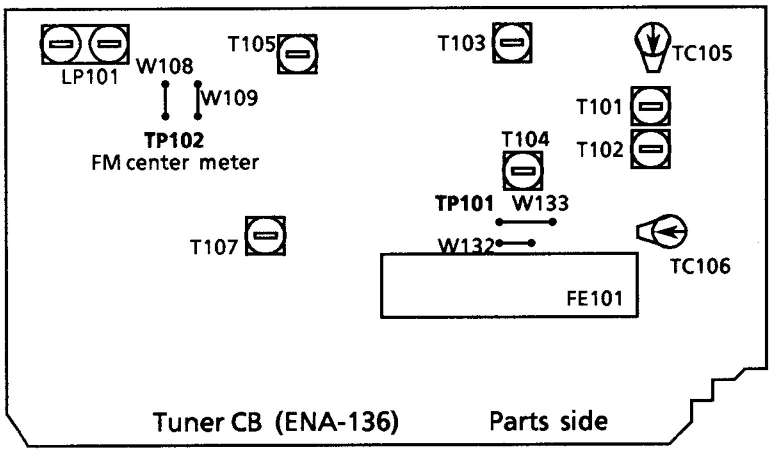

Main CB
(ENH-223-1)

Figure 5 When checking

Adjustment Procedures

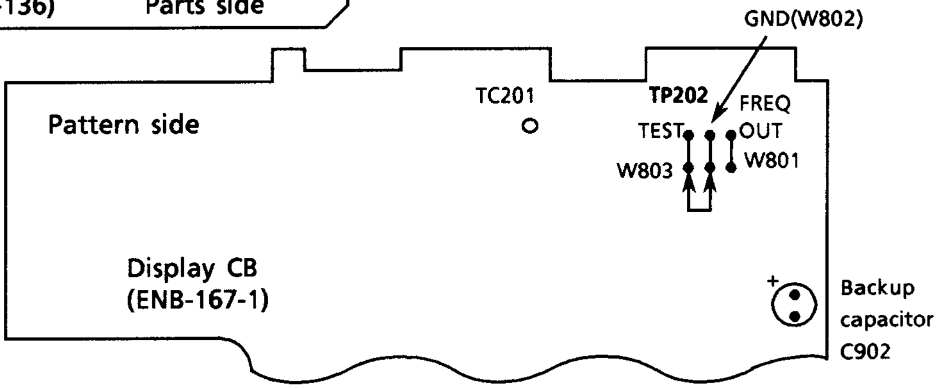
Note :
The groung of the tuner circuit board is connected to the main circuit board through the chassis base and the rear panel.
When servicing the tuner circuit board without the rear panel, connect the chassis base and the ground of the AUX input terminal.


Source selector
&SEA CB (ENC-100-1)
Tuner CB
(ENA-136)
Main CB
(ENH-223-1)
Chassis base


LP101
W108
T105
T103
TC105
W109
T101
TP102
FM center meter
T104
T102
TP101
W133
T107
W132
TC106
FE101
Tuner CB (ENA-136)
Parts side

Clock Adjustment

1. After connecting W803 and W802 with some wire as shown in the figure below, connect ac power cord into ac outlet.
2. Confirm that the display is off and remove the wire.
3. Connect a frequency counter to W801 and W802.
4. Adjust TC201 so that the frequency becomes 34952.5±0.15Hz.


GND(W802)
Pattern side
TC201
TP202
FREQ
TEST
OUT
W803
W801
Display CB
(ENB-167-1)
+
Backup
capacitor
C902

(1) Tuning voltage
Confirm the voltages at TP101 is within the standard values shown in the table below. If the voltages are not satisfied, replace FE101 for FM, adjust T103 for MW and adjust T104 for LW.

FM Tuning voltage (Unit : V)

Area	Frequency			
	64.0MHz	74.0MHz	87.5MHz	108MHz
East Europe	—	—	—	—
the U.K., Continental Europe, U.S.A., Canada, Australia, Universal	—	—	1.6±1.0 (V)	8.0±2.0 (V)

AM Tuning voltage (Unit : V)

Area	Frequency (MW)							Frequency (LW)		
	522KHz	530KHz	531KHz	1600KHz	1602KHz	1629KHz	1710KHz	144kHz	290kHz	353kHz
Italy	0.9±0.2	—	—	—	—	7.5±0.8	—	0.8±0.4	5.7±0.6	—
the U.K., Continental Europe	0.9±0.2	—	—	—	—	7.5±0.8	—	0.8±0.4	—	8.0±0.9
U.S.A., Canada	—	0.9±0.2	—	—	—	—	8.0±0.8	—	—	—
Australia	0.9±0.2	—	—	—	—	7.5±0.8	—	—	—	—
Universal (Channel space9kHz)	—	—	1.0±0.2	—	7.2±0.7	—	—	—	—	—
Universal (Channel space10kHz)	—	0.9±0.2	—	7.2±0.7	—	—	—	—	—	—

(2) FM center meter

Receive a broadcast by using the function of 'AUTO STOP'.

Adjust T105 (detector coil) so that the voltage at TP102 becomes 0±1.5mV.

(3) MW Tracking

Adjust T101 (antenna coil) to obtain the best receiving sensitivity on 600kHz or 603kHz.

Adjust TC105 (antenna trimmer) to obtain the best receiving sensitivity on 1400kHz or 1404kHz.

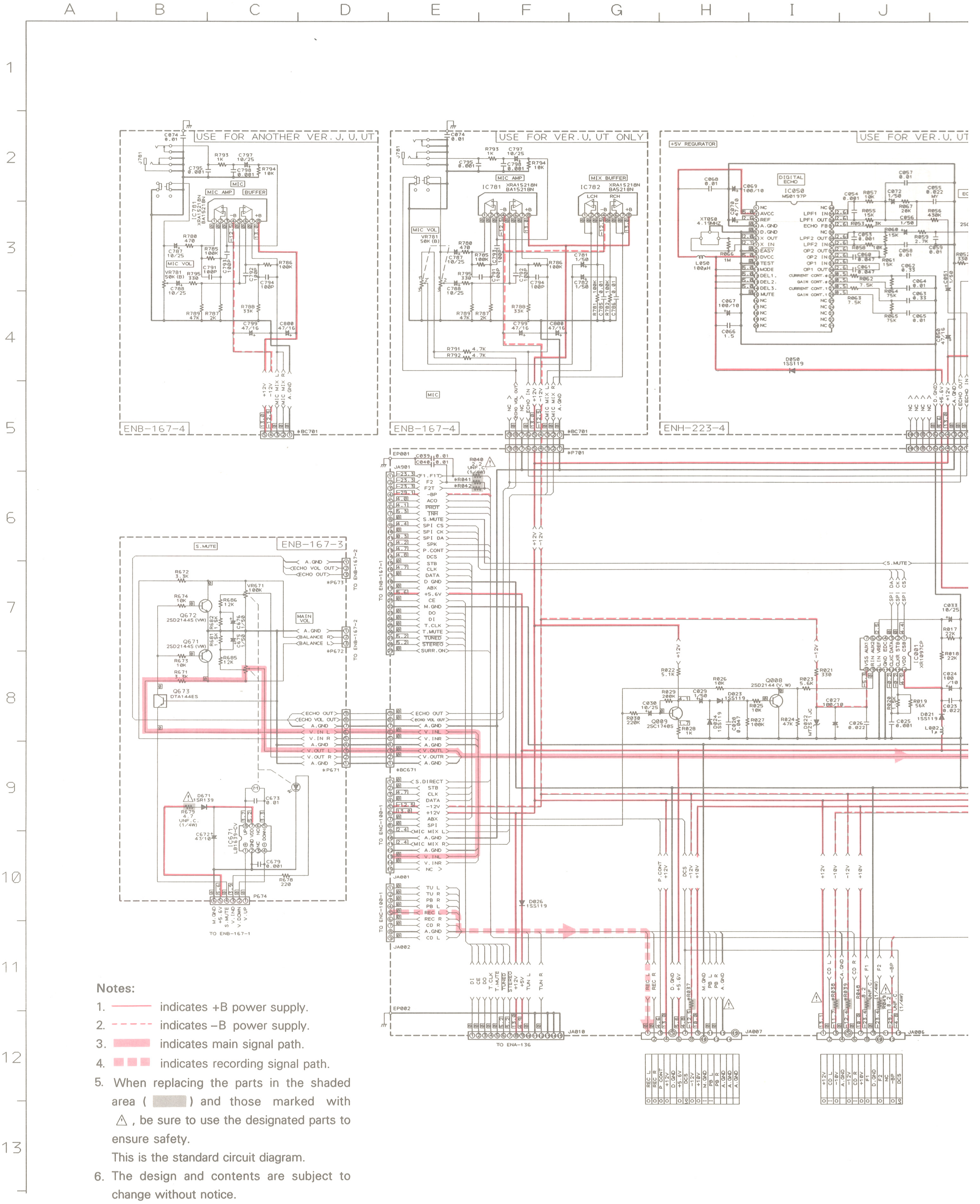
(4) LW Tracking

Adjust T102 (antenna coil) to obtain the best receiving sensitivity on 164kHz.

Adjust TC106 (antenna trimmer) to obtain the best receiving sensitivity on 353kHz or 245kHz

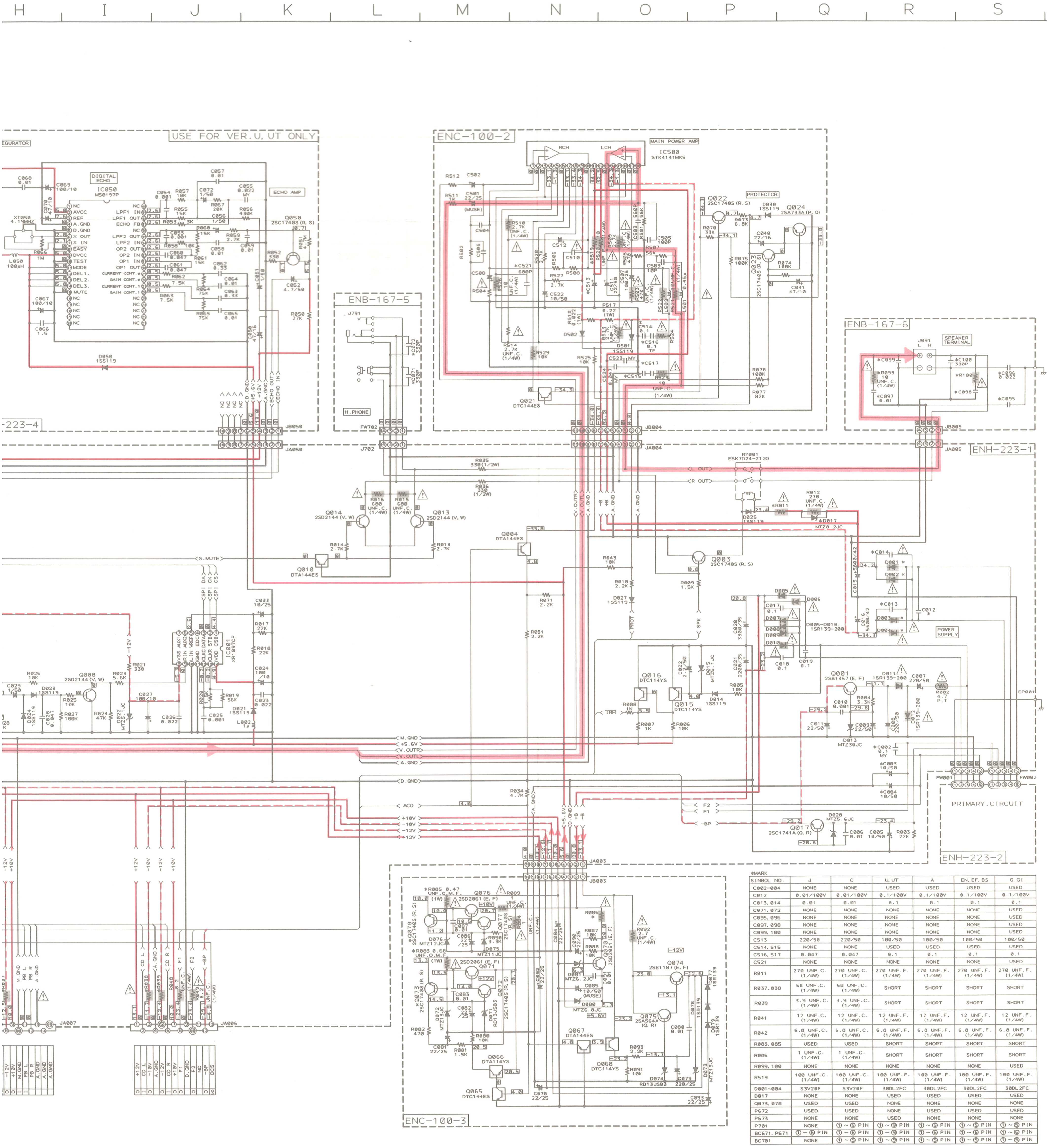
Schematic Diagrams

(1) Amplifier, Regulator, Mic AMP and Supply Section


A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
8
9
10
11
12
13
USE FOR ANOTHER VER. J, U, UT
USE FOR VER. U, UT ONLY
USE FOR VER. U, UT
+5V REGULATOR
MIC AMP
BUFFER
MIX BUFFER
MIC VOL
MIC
IC781 XRA15218N BA15218N
IC782 XRA15218N BA15218N
DIGITAL ECHO
IC050 M50197P
ENB-167-4
ENB-167-4
ENH-223-4
ENB-167-3
S.MUTE
MAIN VOL
Q672 2SD2144S (VW)
Q671 2SD2144S (VW)
Q673 DTA144ES
IC671
D671 1SR139
Q008 2SD2144 (V, W)
Q009 2SC1740S
IC001 XR1097CP
D050 1SS119
D021 1SS119
D023 1SS119
D026 1SS119
EP001
EP002
JA901
JA001
JA002
JA010
JA007
JA006
TO ENB-167-1
TO ENB-167-2
TO ENC-100-1
TO ENA-136

Notes:

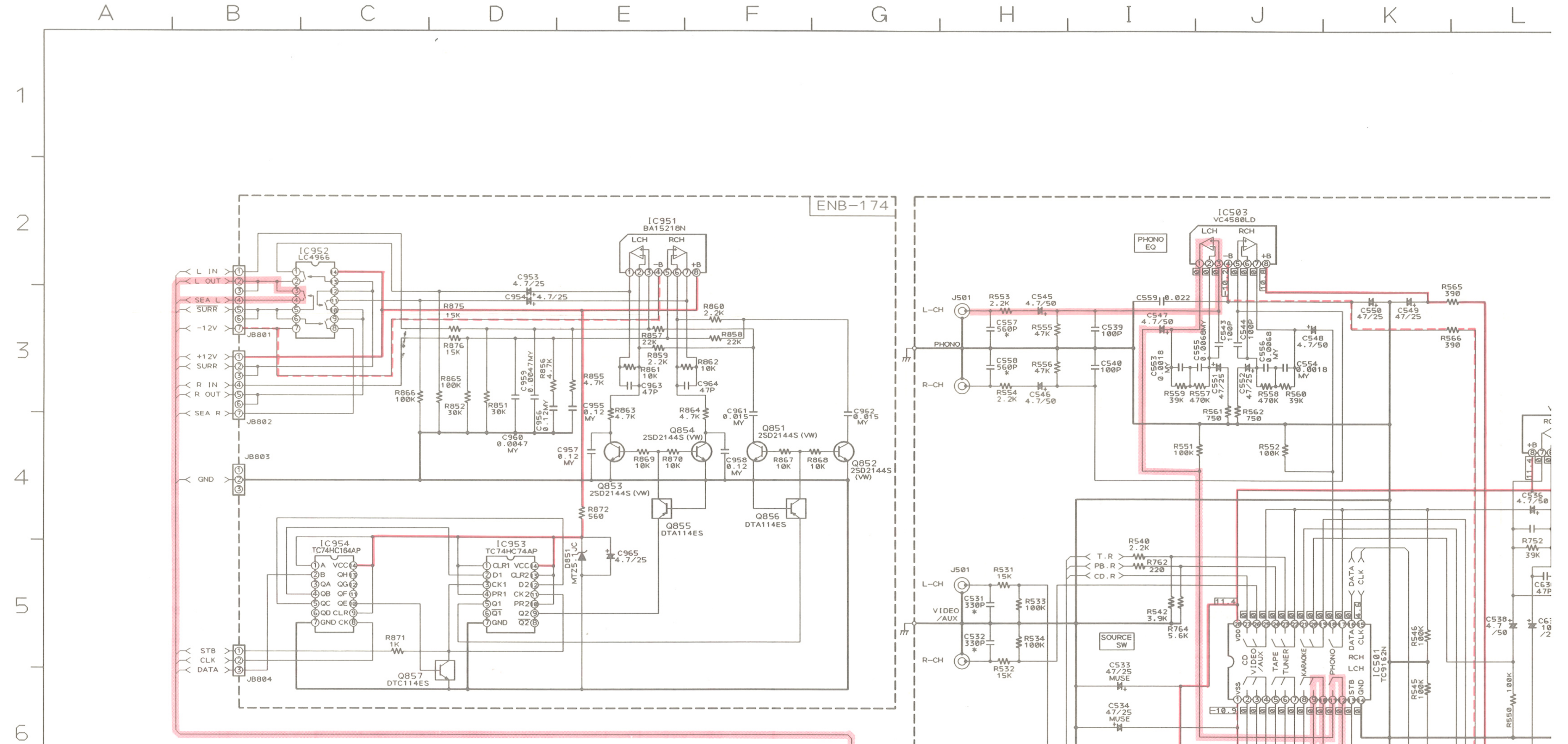
1. ——— indicates +B power supply.
2. - - - - indicates –B power supply.
3. ▬▬ indicates main signal path.
4. ▬ ▬ ▬ indicates recording signal path.
5. When replacing the parts in the shaded area (▨) and those marked with ⚠, be sure to use the designated parts to ensure safety.
   This is the standard circuit diagram.
6. The design and contents are subject to change without notice.

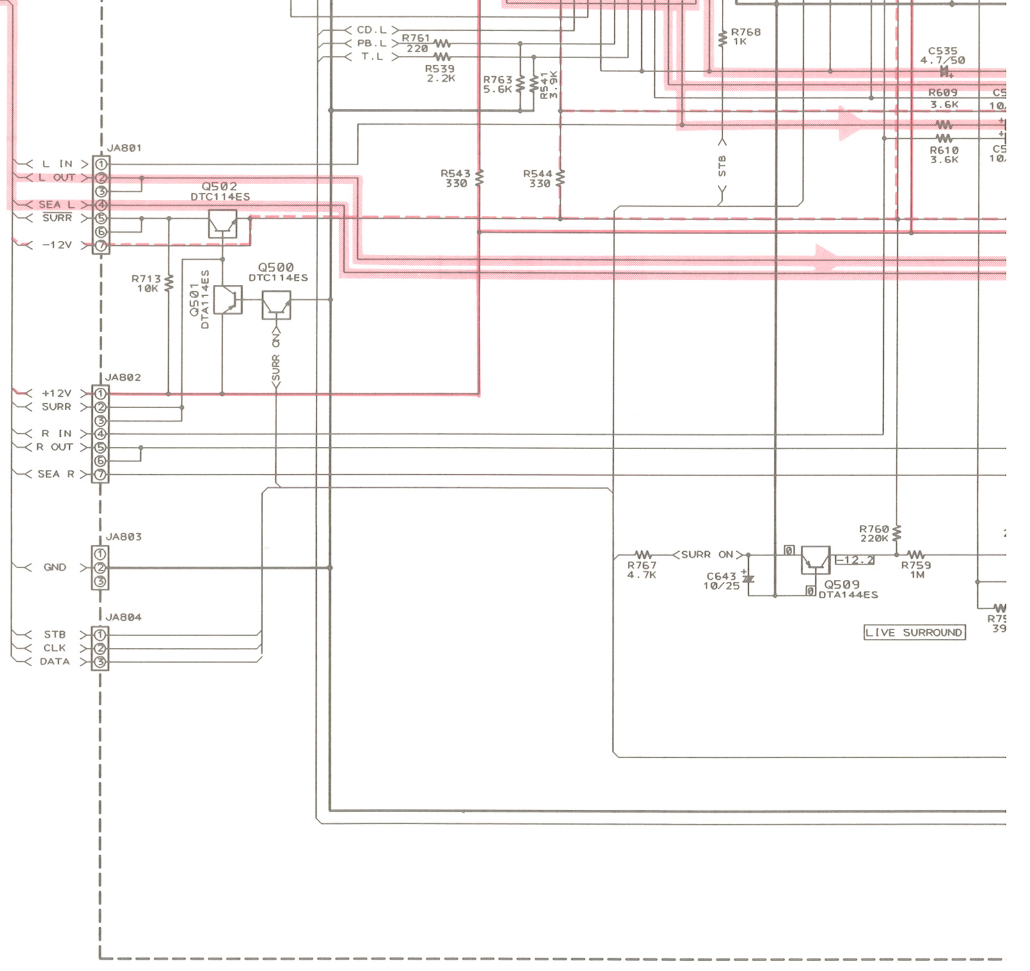

H
I
J
K
L
M
N
O
P
Q
R
S
USE FOR VER.U, UT ONLY
DIGITAL ECHO
IC050 M50197P
ECHO AMP
Q050 2SC1740S (R, S)
ENB-167-5
J791
H.PHONE
FW702
J702
ENC-100-2
MAIN POWER AMP
IC500 STK4141MK5
RCH
LCH
PROTECTOR
Q022 2SC1740S (R, S)
Q024 2SA733A (P, Q)
Q023 2SC1740S (R, S)
Q021 DTC144ES
ENB-167-6
J891
SPEAKER TERMINAL
JB004
JA004
JB005
JA005
JB050
JA050
ENH-223-1
-223-4
RV001 ESK7D24-2120
Q014 2SD2144 (V, W)
Q013 2SD2144 (V, W)
Q004 DTA144ES
Q010 DTA144ES
Q003 2SC1740S (R, S)
IC001 XR1097CP
Q008 2SD2144 (V, W)
Q016 DTC114YS
Q015 DTC114YS
Q001 2SB1357 (E, F)
POWER SUPPLY
D005-D010 1SR139-200
D013 MTZ30JC
EP001
FW001
FW002
PRIMARY.CIRCUIT
ENH-223-2
Q017 2SC1741A (Q, R)
D028 MTZ5.6JC
M.GND
+5.6V
V.OUTR
V.OUTL
A.GND
D.GND
ACO
+10V
-10V
-12V
+12V
F2
F1
-8P
S.MUTE
L OUT
R OUT
JA003
JB003
ENC-100-3
Q076 2SD2061 (E, F)
Q071 2SD2061 (E, F)
Q077 2SC1740S
Q078 2SC1740S (R, S)
Q073 2SC1740S (R, S)
Q072 2SC1740S
Q070 2SD2061 (E, F)
Q074 2SB1187 (E, F)
Q075 2SA564A (Q, R)
Q067 DTA144ES
Q068 DTC114YS
Q066 DTA114YS
Q065 DTC144ES
JA007
JA006

*MARK

SINBOL NO.	J	C	U, UT	A	EN, EF, BS	G, GI
C002-004	NONE	NONE	USED	USED	USED	USED
C012	0.01/100V	0.01/100V	0.1/100V	0.1/100V	0.1/100V	0.1/100V
C013, 014	0.01	0.01	0.1	0.1	0.1	0.1
C071, 072	NONE	NONE	NONE	NONE	NONE	USED
C095, 096	NONE	NONE	NONE	NONE	NONE	USED
C097, 098	NONE	NONE	NONE	NONE	NONE	USED
C099, 100	NONE	NONE	NONE	NONE	NONE	USED
C513	220/50	220/50	100/50	100/50	100/50	100/50
C514, 515	NONE	NONE	USED	USED	USED	USED
C516, 517	0.047	0.047	0.1	0.1	0.1	0.1
C521	NONE	NONE	NONE	NONE	NONE	USED
R011	270 UNF.C. (1/4W)	270 UNF.C. (1/4W)	270 UNF.F. (1/4W)	270 UNF.F. (1/4W)	270 UNF.F. (1/4W)	270 UNF.F. (1/4W)
R037.038	68 UNF.C. (1/4W)	68 UNF.C. (1/4W)	SHORT	SHORT	SHORT	SHORT
R039	3.9 UNF.C. (1/4W)	3.9 UNF.C. (1/4W)	SHORT	SHORT	SHORT	SHORT
R041	12 UNF.C. (1/4W)	12 UNF.C. (1/4W)	12 UNF.F. (1/4W)	12 UNF.F. (1/4W)	12 UNF.F. (1/4W)	12 UNF.F. (1/4W)
R042	6.8 UNF.C. (1/4W)	6.8 UNF.C. (1/4W)	6.8 UNF.F. (1/4W)	6.8 UNF.F. (1/4W)	6.8 UNF.F. (1/4W)	6.8 UNF.F. (1/4W)
R083, 085	USED	USED	SHORT	SHORT	SHORT	SHORT
R086	1 UNF.C. (1/4W)	1 UNF.C. (1/4W)	SHORT	SHORT	SHORT	SHORT
R099, 100	NONE	NONE	NONE	NONE	NONE	USED
R519	100 UNF.C. (1/4W)	100 UNF.C. (1/4W)	100 UNF.F. (1/4W)	100 UNF.F. (1/4W)	100 UNF.F. (1/4W)	100 UNF.F. (1/4W)
D001~004	S3V20F	S3V20F	30DL2FC	30DL2FC	30DL2FC	30DL2FC
D017	NONE	NONE	USED	USED	USED	USED
Q073, 078	USED	USED	NONE	NONE	NONE	NONE
P672	USED	USED	NONE	USED	USED	USED
P673	NONE	NONE	USED	NONE	NONE	NONE
P701	NONE	①~⑤ PIN	①~⑨ PIN	①~⑤ PIN	①~⑤ PIN	①~⑤ PIN
BC671, P671	①~⑥ PIN	①~⑥ PIN	①~⑨ PIN	①~⑥ PIN	①~⑥ PIN	①~⑥ PIN
BC701	NONE	①~⑤ PIN	①~⑨ PIN	①~⑤ PIN	①~⑤ PIN	①~⑤ PIN

(2) Input Selector & SEA Section (EF: ~#7000, J: ~#6000)

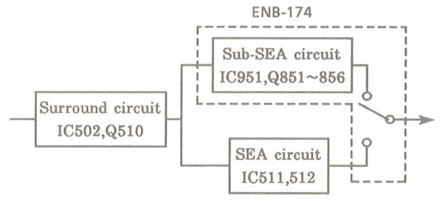

A
B
C
D
E
F
G
H
I
J
K
L
1
2
3
4
5
6
ENB-174
IC951 BA15218N
IC952 LC4966
IC953 TC74HC74AP
IC954 TC74HC164AP
Q851 2SD2144S (VW)
Q852 2SD2144S (VW)
Q853 2SD2144S (VW)
Q854 2SD2144S (VW)
Q855 DTA114ES
Q856 DTA114ES
Q857 DTC114ES
JB801
JB802
JB803
JB804
L IN
L OUT
SEA L
SURR
-12V
+12V
R IN
R OUT
SEA R
GND
STB
CLK
DATA
IC503 VC4580LD
PHONO EQ
J501
L-CH
R-CH
PHONO
VIDEO /AUX
SOURCE SW
IC501 TC9162N


7
8
9
10
11
JA801
JA802
JA803
JA804
Q500 DTC114ES
Q501 DTA114ES
Q502 DTC114ES
Q509 DTA144ES
L IN
L OUT
SEA L
SURR
-12V
+12V
R IN
R OUT
SEA R
GND
STB
CLK
DATA
SURR ON
LIVE SURROUND

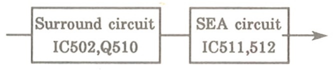
ENB-174

The system controller (MN171202JHF) does not output the correct data for the live surround mode. Then Sub-SEA circuit (ENB-174) is added to improve this function.

The live surround circuit consists of the surround circuit and the SEA circuit. Because MN171202JHF can not control the SEA circuit for an unappropriate data, the added Sub-SEA circuit operates only in the live surround mode.


ENB-174
Surround circuit
IC502,Q510
Sub-SEA circuit
IC951,Q851~856
SEA circuit
IC511,512

For MN171202JHF


Surround circuit
IC502,Q510
SEA circuit
IC511,512

For MN171202JHF1

In the subsequent production runs, newly improved MN171202JHF1 has been installed for the previous IC and the sub-SEA circuit becomes unnecessary.

The necessary parts for the previous IC and improved one are different. The following table shows the differences..

Symbol	MN171202JHF	MN171202JHF1	
ENB-174	USED	NONE	※
Q500	USED	NONE	—
Q501	USED	NONE	—
Q502	USED	NONE	—
R703	USED	NONE	※
R704	USED	NONE	※
R713	USED	NONE	—
C613	USED	NONE	※
C614	USED	NONE	※
W508	USED	NONE	—
W583	USED	NONE	—
W613	USED	NONE	—
JA801	USED	NONE	—
JA802	USED	NONE	—
JA803	USED	NONE	—
JA804	USED	NONE	—
W539	NONE	USED	※
W540	NONE	USED	※
W584	NONE	USED	※
W585	NONE	USED	※

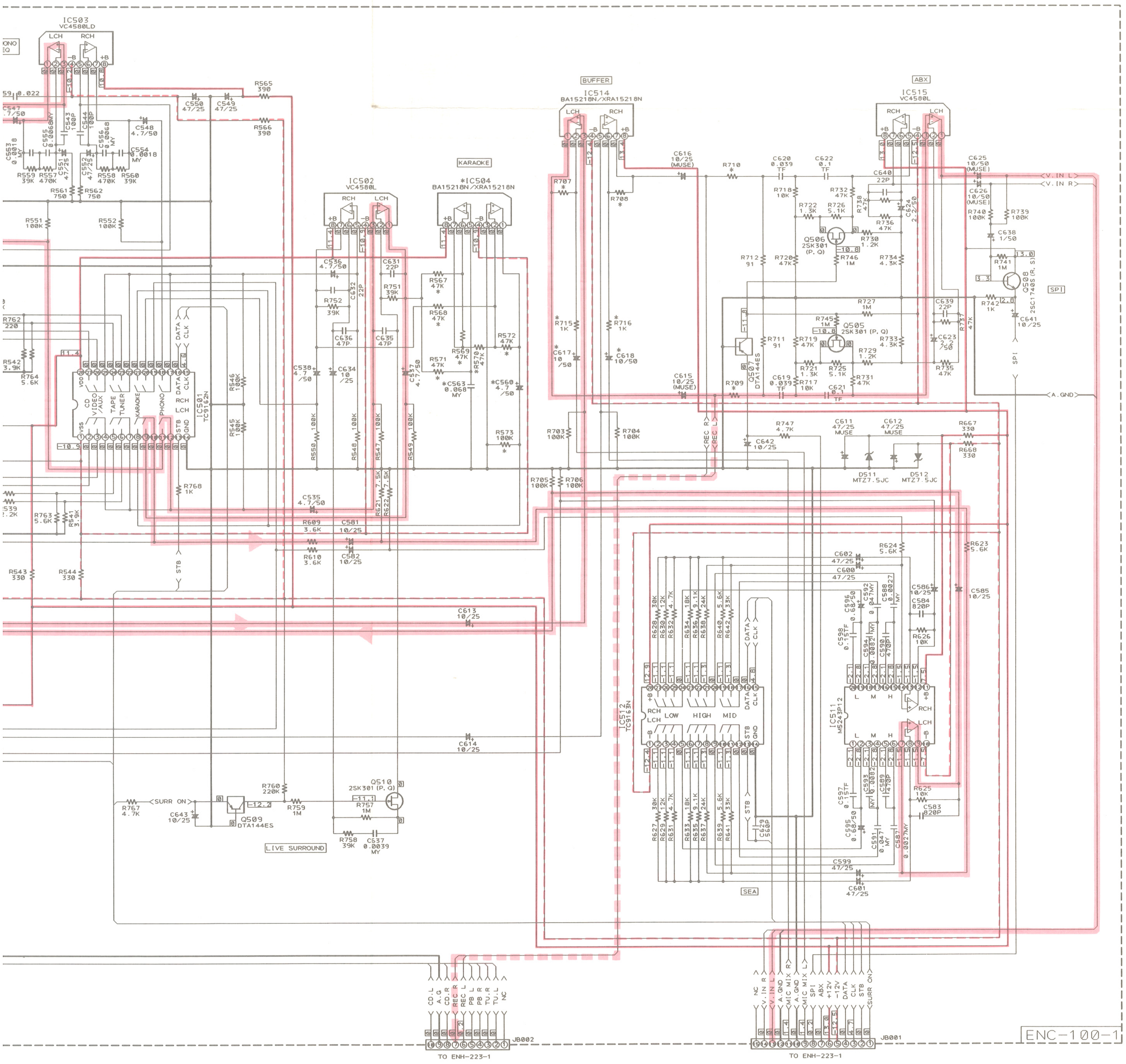
The parts marked with ※ must be added or deleted according to the table after exchanging MN171202JHF for MN171202JHF1. It is not affected that the exchange of the other parts (ecept the parts marked with ※).

MN171202JHF has been used in the units with the serial number up to #7000 for the continental europe version and up to #6000 for the U.S. version.

∗ MARK

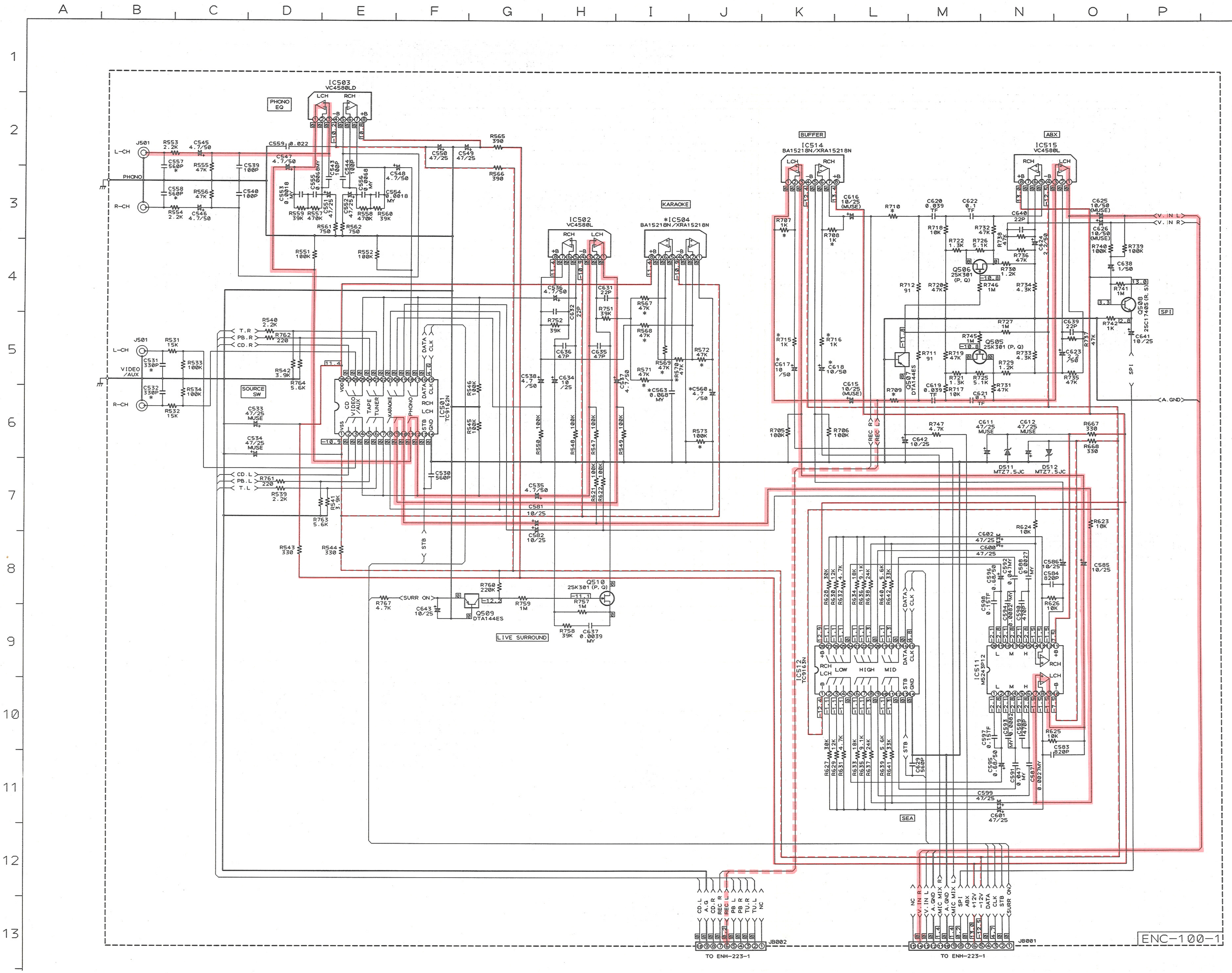
SYMBOL NO	J	C	U, UT	A, EN EF, BS	G, GI
C531, 532	NONE	NONE	NONE	NONE	USED
C557, 558	NONE	NONE	NONE	NONE	USED
C559	NONE	NONE	NONE	NONE	USED
C560	NONE	USED	USED	USED	USED
C563	NONE	USED	USED	USED	USED
C617	NONE	USED	USED	USED	USED
C618	NONE	USED	USED	USED	USED
R567	NONE	USED	USED	USED	USED
R568	NONE	USED	USED	USED	USED
R569	NONE	USED	USED	USED	USED
R570	NONE	USED	USED	USED	USED
R571	NONE	USED	USED	USED	USED
R572	NONE	USED	USED	USED	USED
R573	NONE	USED	USED	USED	USED
R707	SHORT	2K	2K	2K	2K
R708	SHORT	2K	2K	2K	2K
R709, 710	360	1.3K	1.3K	1.3K	1.3K
R715	NONE	USED	USED	USED	USED
R716	NONE	USED	USED	USED	USED
IC504	NONE	USED	USED	USED	USED

J K L M N O P Q R S


IC503 VC4580LD
LCH
RCH
IC502 VC4580L
IC501 TC9162N
*IC504 BA15218N/XRA15218N
KARAOKE
BUFFER
IC514 BA15218N/XRA15218N
ABX
IC515 VC4580L
Q506 2SK301 (P, Q)
Q505 2SK301 (P, Q)
Q507 DTA144ES
Q508 2SC1740S (R, S)
SPI
Q509 DTA144ES
Q510 2SK301 (P, Q)
LIVE SURROUND
<SURR ON>
IC512 TC9163N
IC511 M5243P12
SEA
D511 MTZ7.5JC
D512 MTZ7.5JC
<V.IN L>
<V.IN R>
<A.GND>
CD
VIDEO /AUX
TAPE
TUNER
KARAOKE
PHONO
DATA
CLK
STB
RCH
LCH
LOW
HIGH
MID
CD L
A.G
CD R
REC R
REC L
PB L
PB R
TU.L
TU.R
NC
JB002
TO ENH-223-1
NC
V.IN R
V.IN L
A.GND
MIC MIX R
A.GND
MIC MIX L
SPI
ABX
+12V
-12V
DATA
CLK
STB
SURR ON
JB001
TO ENH-223-1
ENC-100-1

EN BS	G, GI
NE	USED
NE	USED
NE	USED
ED	USED
ED	USED
ED	USED
ED	USED
ED	USED
ED	USED
ED	USED
ED	USED
ED	USED
ED	USED
ED	USED
K	2K
K	2K
3K	1.3K
ED	USED
ED	USED
ED	USED

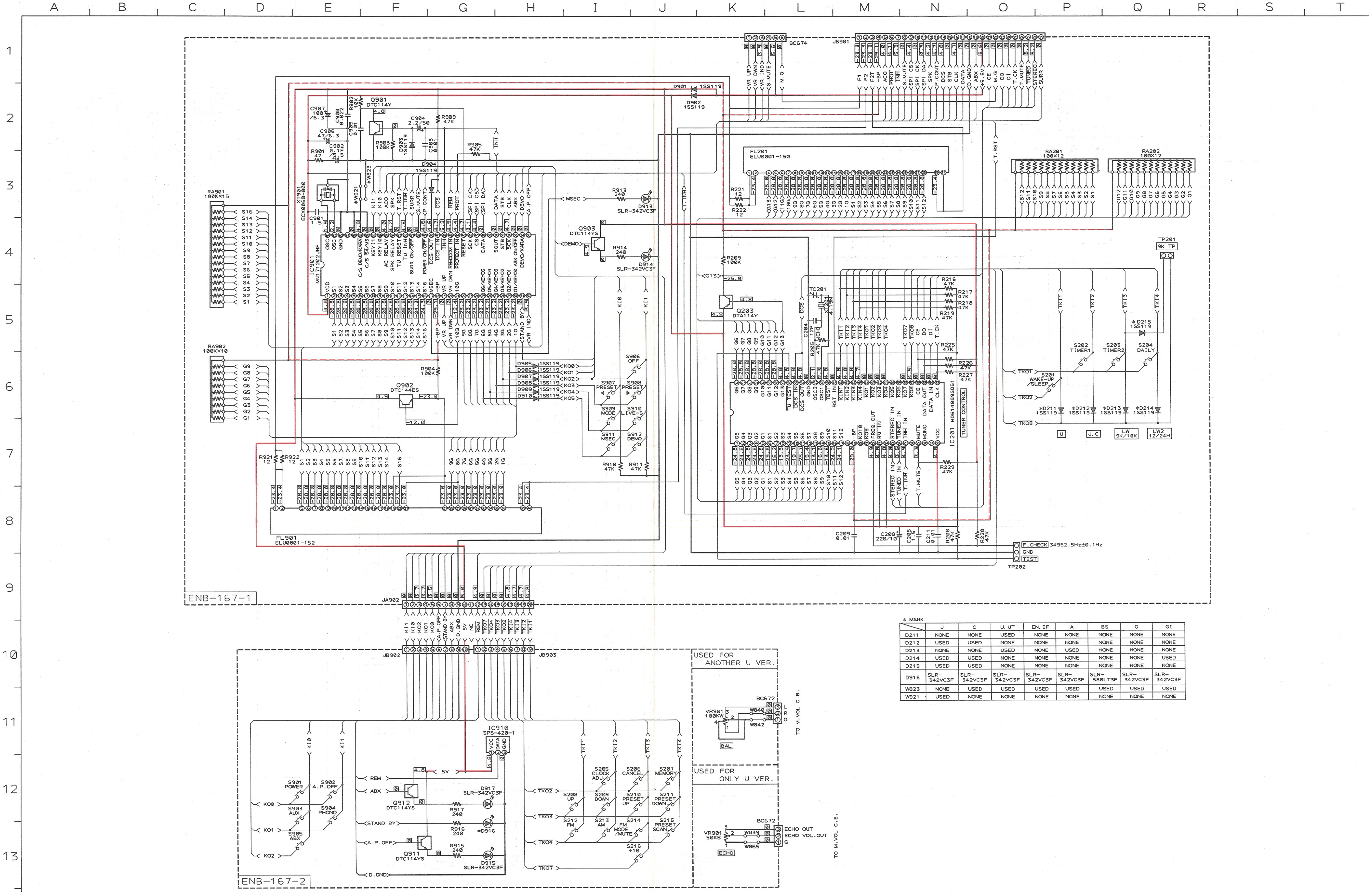
(3) Input Selector & SEA Section


A B C D E F G H I J K L M N O P Q R S T
1 2 3 4 5 6 7 8 9 10 11 12 13
IC503
VC4580LD
PHONO EQ
LCH
RCH
J501
L-CH
PHONO
R-CH
VIDEO /AUX
SOURCE SW
IC501
TC9162N
IC502
VC4580L
KARAOKE
*IC504
BA15218N/XRA15218N
BUFFER
IC514
BA15218N/XRA15218N
ABX
IC515
VC4580L
Q505
2SK301 (P, Q)
Q506
2SK301 (P, Q)
Q507
DTA144ES
Q508
2SC1740S (R, S)
SPI
Q509
DTA144ES
Q510
2SK301 (P, Q)
LIVE SURROUND
SURR ON
IC512
TC9162N
IC511
M62420P12
SEA
D511
MTZ7.5JC
D512
MTZ7.5JC
V. IN L
V. IN R
A. GND
CD. L
A. G
CD. R
REC R
REC L
PB L
PB R
TU. R
TU. L
NC
JB002
TO ENH-223-1
NC
V. IN R
V. IN L
A. GND
MIC MIX R
A. GND
MIC MIX L
SPI
ABX
+12V
-12V
DATA
CLK
STB
SURR ON
JB001
TO ENH-223-1
ENC-100-1

＊ MARK

SYMBOL NO	J	C	U. UT	A. EN EF. BS	G. GI
C531, 532	NONE	NONE	NONE	NONE	USED
C557, 558	NONE	NONE	NONE	NONE	USED
C559	NONE	NONE	NONE	NONE	USED
C560	NONE	USED	USED	USED	USED
C563	NONE	USED	USED	USED	USED
C617	NONE	USED	USED	USED	USED
C618	NONE	USED	USED	USED	USED
R567	NONE	USED	USED	USED	USED
R568	NONE	USED	USED	USED	USED
R569	NONE	USED	USED	USED	USED
R570	NONE	USED	USED	USED	USED
R571	NONE	USED	USED	USED	USED
R572	NONE	USED	USED	USED	USED
R573	NONE	USED	USED	USED	USED
R707	SHORT	USED	USED	USED	USED
R708	SHORT	USED	USED	USED	USED
R709, 710	620	1.3K	1.3K	1.3K	1.3K
R715	NONE	USED	USED	USED	USED
R716	NONE	USED	USED	USED	USED
IC504	NONE	USED	USED	USED	USED

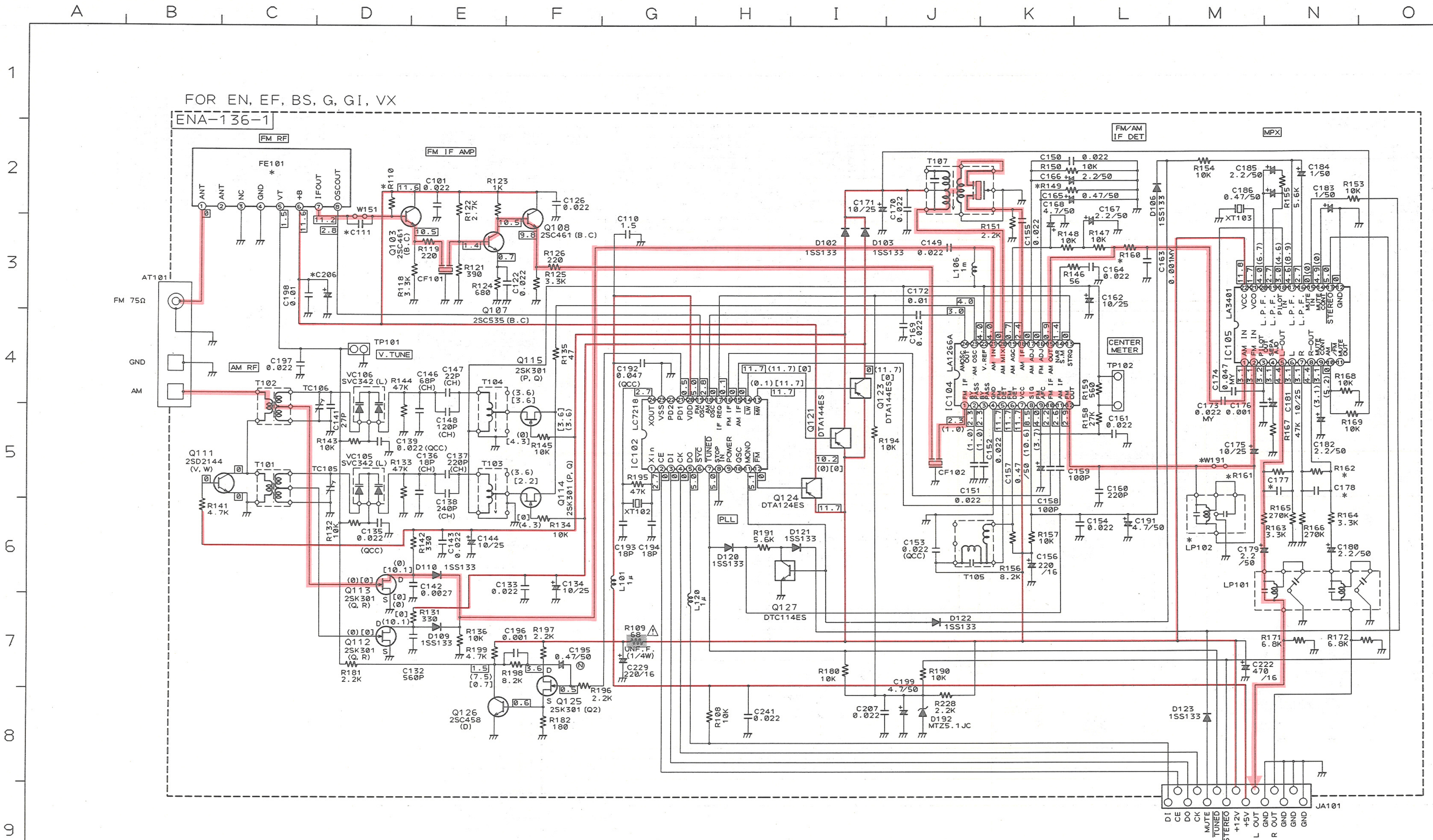
(4) System Control & Key Matrix Section


A B C D E F G H I J K L M N O P Q R S T
1 2 3 4 5 6 7 8 9 10 11 12 13
ENB-167-1
ENB-167-2
IC901 MN171202JHF
IC201 HD614089S051
TUNER CONTROL
FL901 ELU0001-152
FL201 ELU0001-150
IC910 SPS-420-1
BC674
JB901
JA902
JB902
JB903
RA901 100K×15
RA902 100K×10
RA201 100×12
RA202 100×12
Q901 DTC114Y
Q902 DTC144ES
Q903 DTC114YS
Q203 DTA114Y
Q911 DTC114YS
Q912 DTC114YS
X901 ECX0868-000
D901 1SS119
D902 1SS119
D903 1SS119
D904 1SS119
D905 1SS119
D906 1SS119
D907 1SS119
D908 1SS119
D909 1SS119
D910 1SS119
D913 SLR-342VC3F
D914 SLR-342VC3F
D915 SLR-342VC3F
D917 SLR-342VC3F
*D916
*D211 1SS119
*D212 1SS119
*D213 1SS119
*D214 1SS119
*D215 1SS119
TC201
TP201 9K TP
TP202
F.CHECK 34952.5Hz±0.1Hz
GND
TEST
S901 POWER
S902 A.P.OFF
S903 AUX
S904 PHONO
S905 ABX
S906 OFF
S907 PRESET
S908 PRESET
S909 MODE
S910 LIVE-S
S911 MSEC
S912 DEMO
S201 WAKE-UP /SLEEP
S202 TIMER1
S203 TIMER2
S204 DAILY
S205 CLOCK ADJ.
S206 CANCEL
S207 MEMORY
S208
S209 DOWN
S210 PRESET UP
S211 PRESET DOWN
S212 FM
S213 AM
S214 FM MODE /MUTE
S215 PRESET SCAN
S216 +10
U
J.C
LW 9K/10K
LW2 12/24H
USED FOR ANOTHER U VER.
USED FOR ONLY U VER.
VR901 100KW
VR901 50KB
BAL
ECHO
BC672
ECHO OUT
ECHO VOL.OUT
TO M.VOL C.B.

* MARK

	J	C	U, UT	EN, EF	A	BS	G	GI
D211	NONE	NONE	USED	NONE	NONE	NONE	NONE	NONE
D212	USED	USED	NONE	NONE	NONE	NONE	NONE	NONE
D213	NONE	NONE	USED	NONE	USED	NONE	NONE	NONE
D214	USED	USED	NONE	NONE	NONE	NONE	NONE	USED
D215	USED	USED	NONE	NONE	NONE	NONE	NONE	NONE
D916	SLR-342VC3F	SLR-342VC3F	SLR-342VC3F	SLR-342VC3F	SLR-342VC3F	SLR-580LT3F	SLR-342VC3F	SLR-342VC3F
W823	NONE	USED	USED	USED	USED	USED	USED	USED
W921	USED	NONE	NONE	NONE	NONE	NONE	NONE	NONE

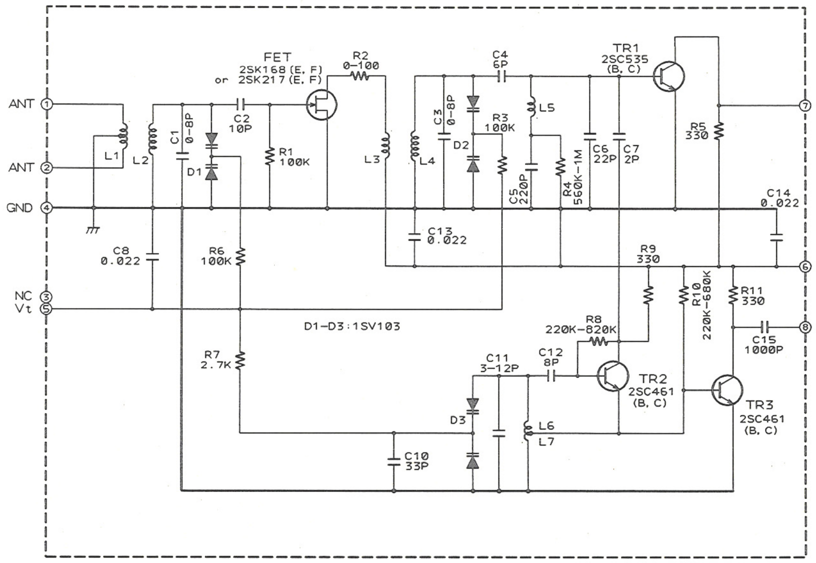
(5) Tuner Section (with LW)


A B C D E F G H I J K L M N O P Q R S T
1 2 3 4 5 6 7 8 9 10 11 12 13
FOR EN, EF, BS, G, GI, VX
ENA-136-1
FM RF
FM IF AMP
FM/AM IF DET
MPX
AM RF
V.TUNE
PLL
CENTER METER
FE101
AT101
FM 75Ω
GND
AM
Q103 2SC461 (B.C)
Q107 2SC535 (B.C)
Q108 2SC461 (B.C)
Q111 2SD2144 (V, W)
Q112 2SK301 (Q, R)
Q113 2SK301 (Q, R)
Q114 2SK301 (P, Q)
Q115 2SK301 (P, Q)
Q121 DTA144ES
Q123 DTA144ES
Q124 DTA124ES
Q125 2SK301 (Q2)
Q126 2SC458 (D)
Q127 DTC114ES
IC102 LC7218
IC104 LA1266A
IC105 LA3401
T101 T102 T103 T104 T105 T107
LP101 LP102
CF101 CF102
XT102 XT103
TP101 TP102
D102 1SS133
D103 1SS133
D106 1SS133
D109 1SS133
D110 1SS133
D120 1SS133
D121 1SS133
D122 1SS133
D123 1SS133
D192 MTZ5.1JC
JA101
DI CE DO CK MUTE TUNED STEREO +12V +5V L OUT R OUT GND GND GND GND

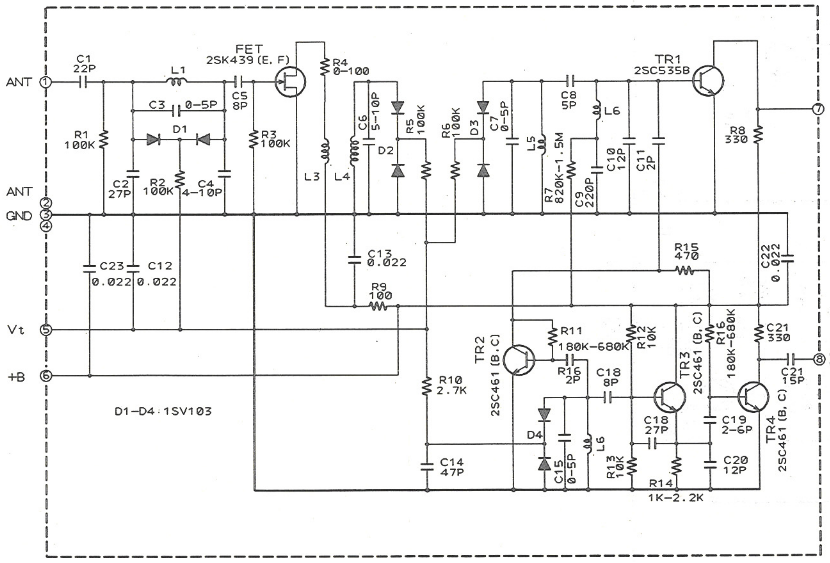
* MARK	EN, EF	G, GI	BS	VX
R160	10K	10K	1K	10K
R161, 162	100K	100K	68K	100K
C177, 178	560P	560P	820P	560P
FE101	EAF2203-001	EAF2203-003	EAF2203-001	EAF2302-001
LP102	NONE	USED	NONE	NONE
W191	USED	NONE	USED	USED
R149	22K	27K	22K	15K
R110	NONE	NONE	NONE	47K
C111	NONE	NONE	NONE	0.01
W151	USED	USED	USED	NONE
C107	NONE	47/50	NONE	NONE

☐ FM AUTO NO SIGNAL
( ) MW NO SIGNAL
[ ] LW NO SIGNAL

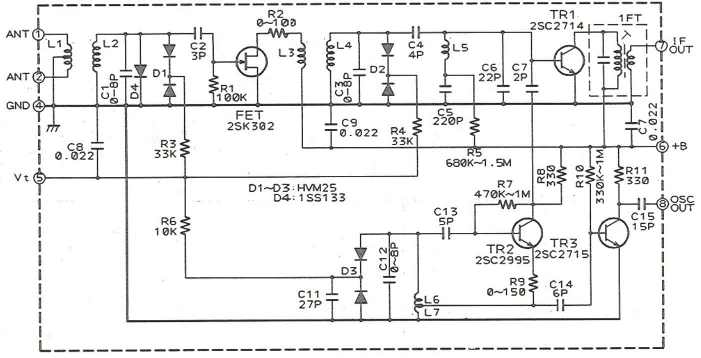
FE101
EAF2203-001 (FOR EN, EF, BS)


ANT
ANT
GND
NC
Vt
IF OUT
+B
OSC OUT
FET 2SK168 (E, F) or 2SK217 (E, F)
TR1 2SC535 (B, C)
TR2 2SC461 (B, C)
TR3 2SC461 (B, C)
D1~D3: 1SV103

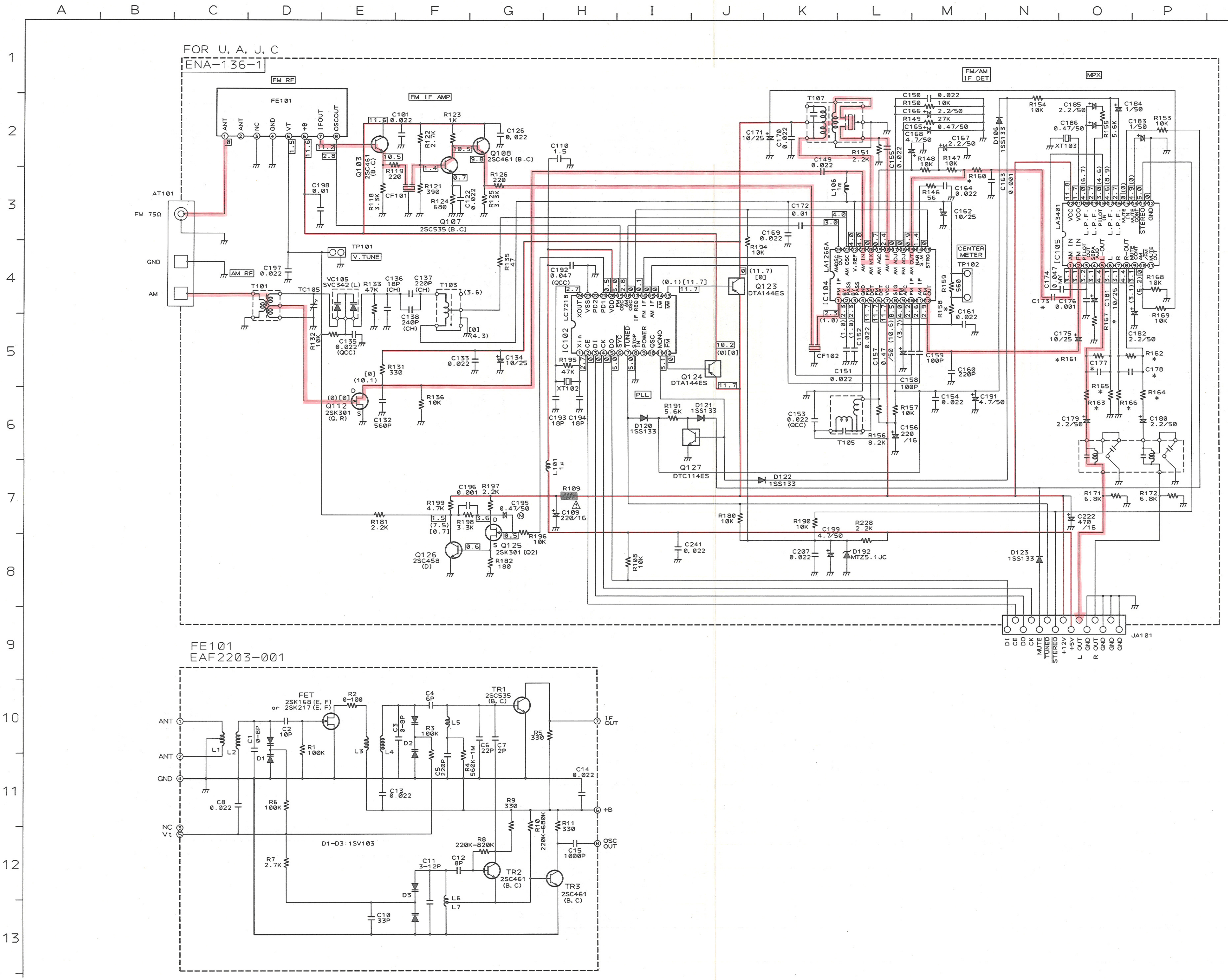
FE101
EAF2203-003 (FOR G, GI)


ANT
ANT
GND
Vt
+B
IF OUT
OSC OUT
FET 2SK439 (E, F)
TR1 2SC535B
TR2 2SC461 (B, C)
TR3 2SC461 (B, C)
TR4 2SC461 (B, C)
D1~D4: 1SV103

FE101
EAF2302-001 (FOR VX)


ANT
ANT
GND
Vt
IF OUT
+B
OSC OUT
FET 2SK302
TR1 2SC2714
TR2 2SC2995
TR3 2SC2715
D1~D3: HVM25
D4: 1SS133

(6) Tuner Section (without LW)


FOR U, A, J, C
ENA-136-1
FM RF
FE101
FM IF AMP
Q103 2SC461 (B.C)
Q107 2SC535 (B.C)
Q108 2SC461 (B.C)
CF101
AT101
FM 75Ω
GND
AM
AM RF
T101
TC105
VC105 SVC342 (L)
T103
TP101
V. TUNE
Q112 2SK301 (Q, R)
IC102 LC7218
XT102
PLL
Q123 DTA144ES
Q124 DTA144ES
Q127 DTC114ES
D120 1SS133
D121 1SS133
D122 1SS133
Q125 2SK301 (Q2)
Q126 2SC458 (D)
R109
L101 1μ
FM/AM IF DET
T107
IC104 LA1266A
CF102
T105
CENTER METER
TP102
MPX
IC105 LA3401
XT103
D106 1SS133
D123 1SS133
D192 MTZ5.1JC
JA101
DI CE DO CK MUTE TUNED STEREO +12V +5V L OUT GND R OUT GND GND
FE101 EAF2203-001
FET 2SK168 (E, F) or 2SK217 (E, F)
TR1 2SC535 (B, C)
TR2 2SC461 (B, C)
TR3 2SC461 (B, C)
D1-D3 : 1SV103
ANT
ANT
GND
NC
Vt
IF OUT
+B
OSC OUT

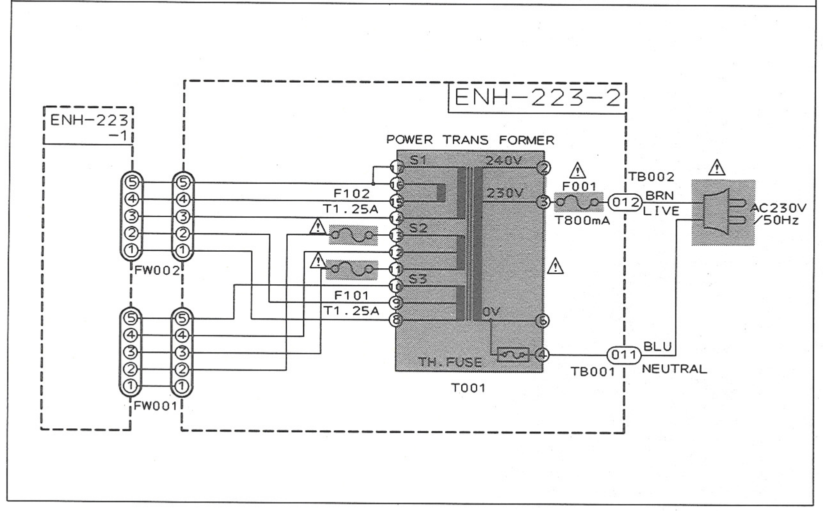
∗ MARK

	U	A	J. C
R109	68 UNF.F. (1/4W)	68 UNF.F. (1/4W)	68 UNF.C. (1/4W)
R167	39K	47K	39K
R160	5.6K	10K	5.6K
R161, 162	82K	100K	82K
R163, 164	4.7K	3.3K	4.7K
R165, 166	180K	270K	180K
C177, 178	820P	560P	820P
R158	27K	27K	18K
C173	0.039	0.022	0.039

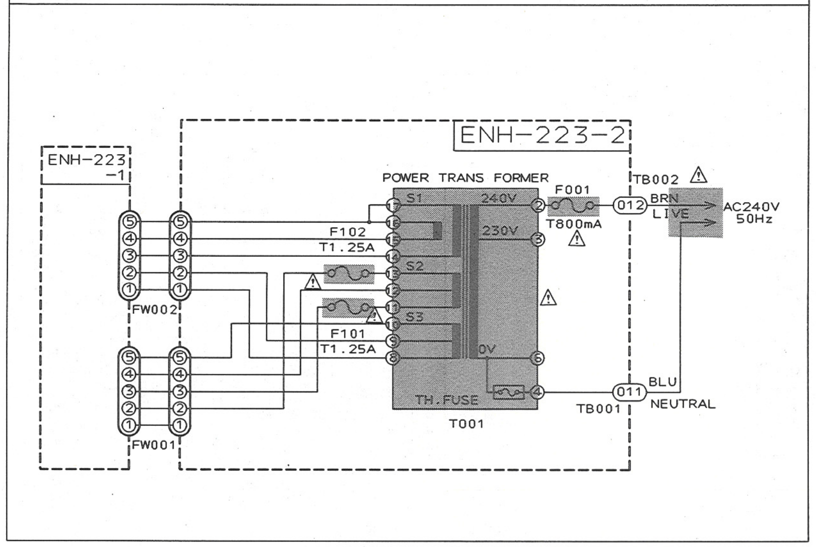
☐ FM AUTO NO SIGNAL
( ) MW NO SIGNAL
[ ] LW NO SIGNAL

(7) Power Primary Section

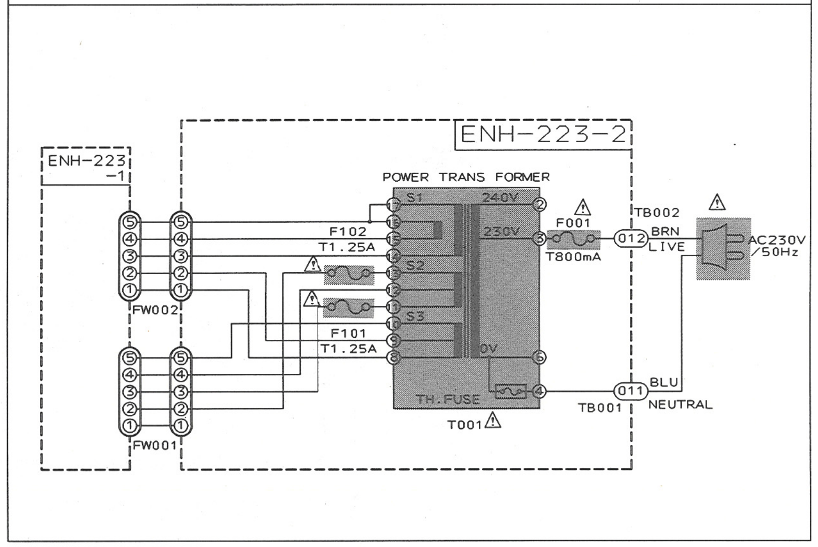
(EN, EF) EN FOR SCANDINAVIA
EF FOR CONTINENTAL EUROPE


ENH-223-1
ENH-223-2
POWER TRANS FORMER
S1
240V
230V
S2
S3
0V
TH. FUSE
T001
F102
T1.25A
F101
T1.25A
F001
T800mA
FW002
FW001
TB002
012
BRN
LIVE
AC230V
/50Hz
TB001
011
BLU
NEUTRAL

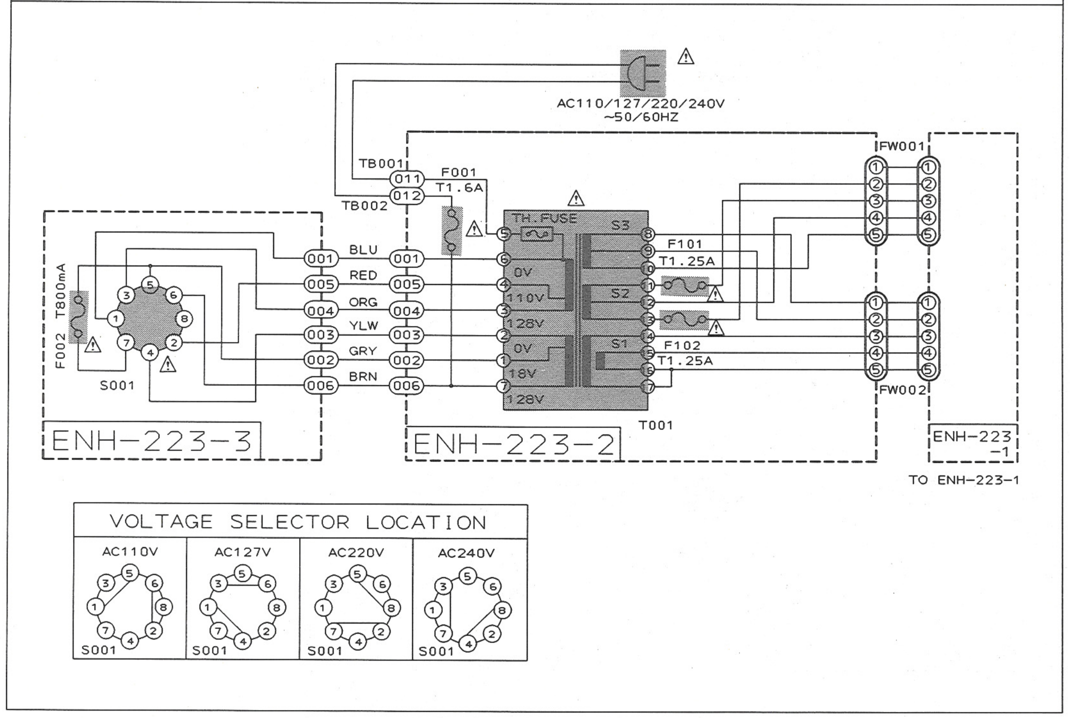
(BS, A) BS FOR U.K. A FOR AUSTRALIA


ENH-223-1
ENH-223-2
POWER TRANS FORMER
S1
240V
230V
S2
S3
0V
TH. FUSE
T001
F102
T1.25A
F101
T1.25A
F001
T800mA
FW002
FW001
TB002
012
BRN
LIVE
AC240V
50Hz
TB001
011
BLU
NEUTRAL

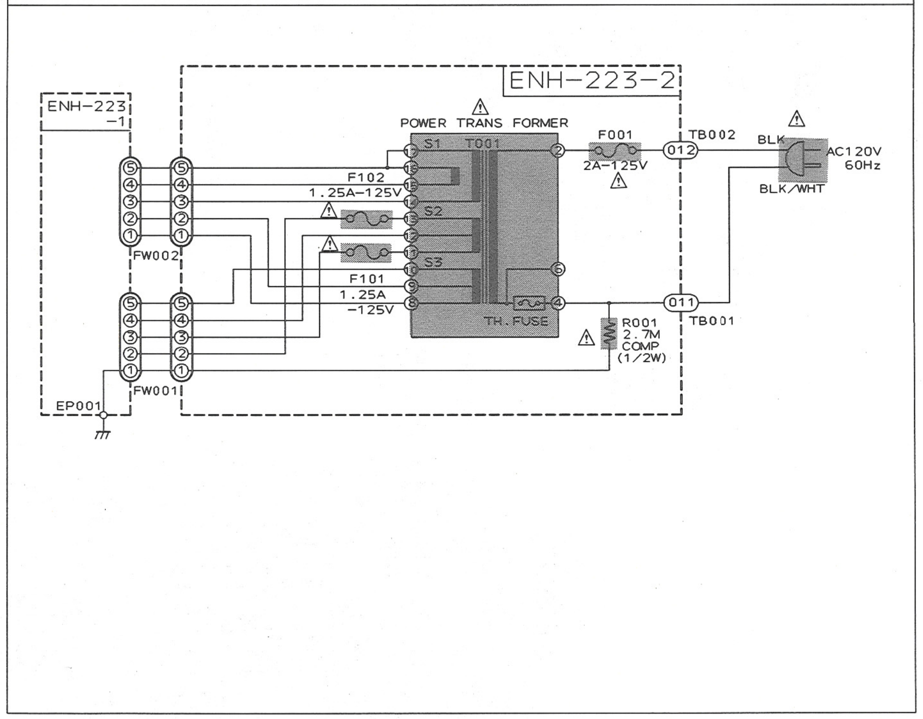
(G, GI) G FOR GERMANY GI FOR ITALY


ENH-223-1
ENH-223-2
POWER TRANS FORMER
S1
240V
230V
S2
S3
0V
TH. FUSE
T001
F102
T1.25A
F101
T1.25A
F001
T800mA
FW002
FW001
TB002
012
BRN
LIVE
AC230V
/50Hz
TB001
011
BLU
NEUTRAL

(U, UT) FOR OTHER COUNTRIES

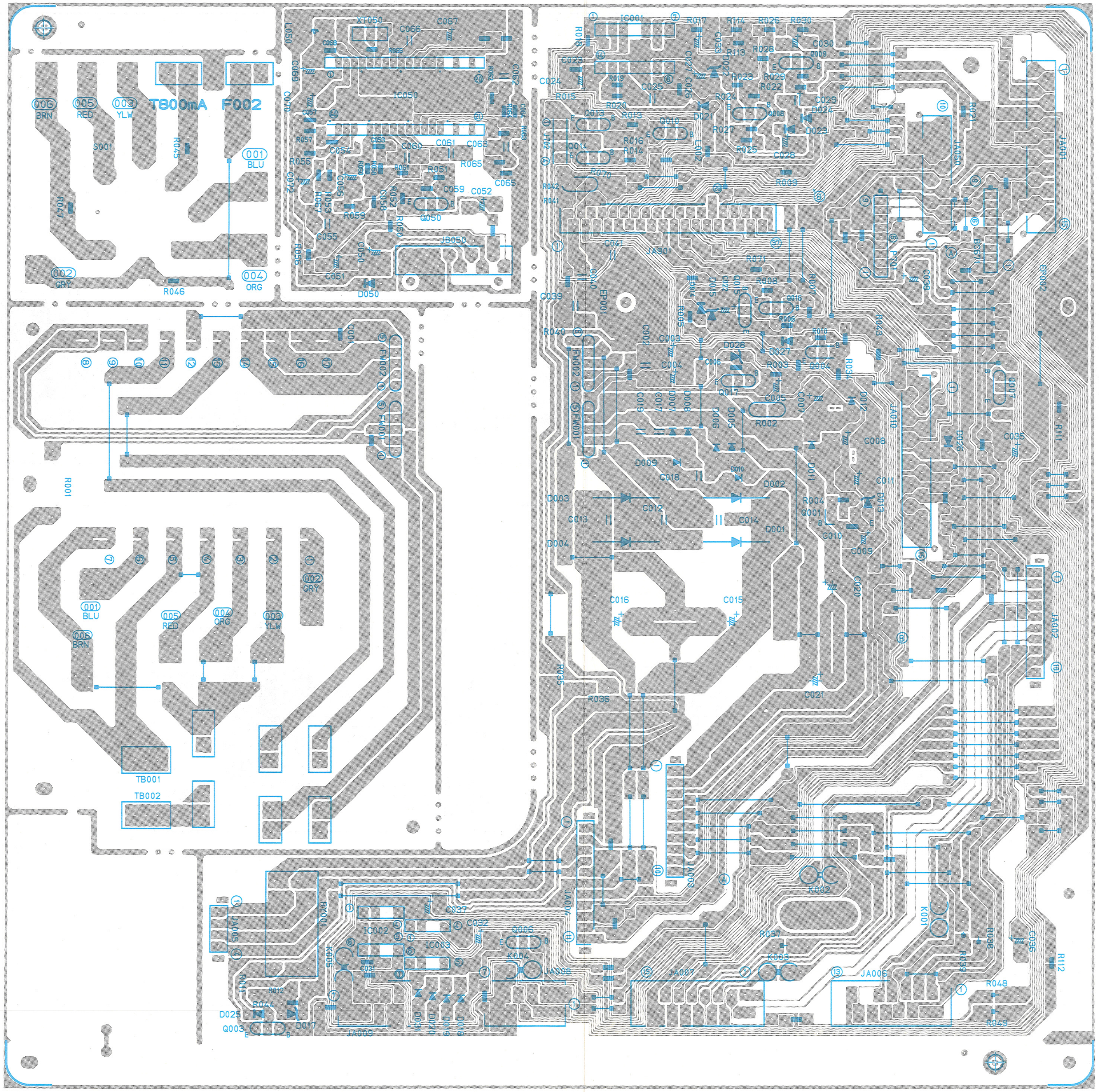

AC110/127/220/240V
~50/60HZ
TB001
011
012
TB002
F001
T1.6A
TH. FUSE
S3
0V
110V
128V
S2
S1
0V
18V
128V
F101
T1.25A
F102
T1.25A
T001
FW001
FW002
ENH-223-1
TO ENH-223-1
F002 T800mA
S001
001 BLU 001
005 RED 005
004 ORG 004
003 YLW 003
002 GRY 002
006 BRN 006
ENH-223-3
ENH-223-2
VOLTAGE SELECTOR LOCATION
AC110V
AC127V
AC220V
AC240V
S001

(J, C) J FOR U.S.A. C FOR CANADA

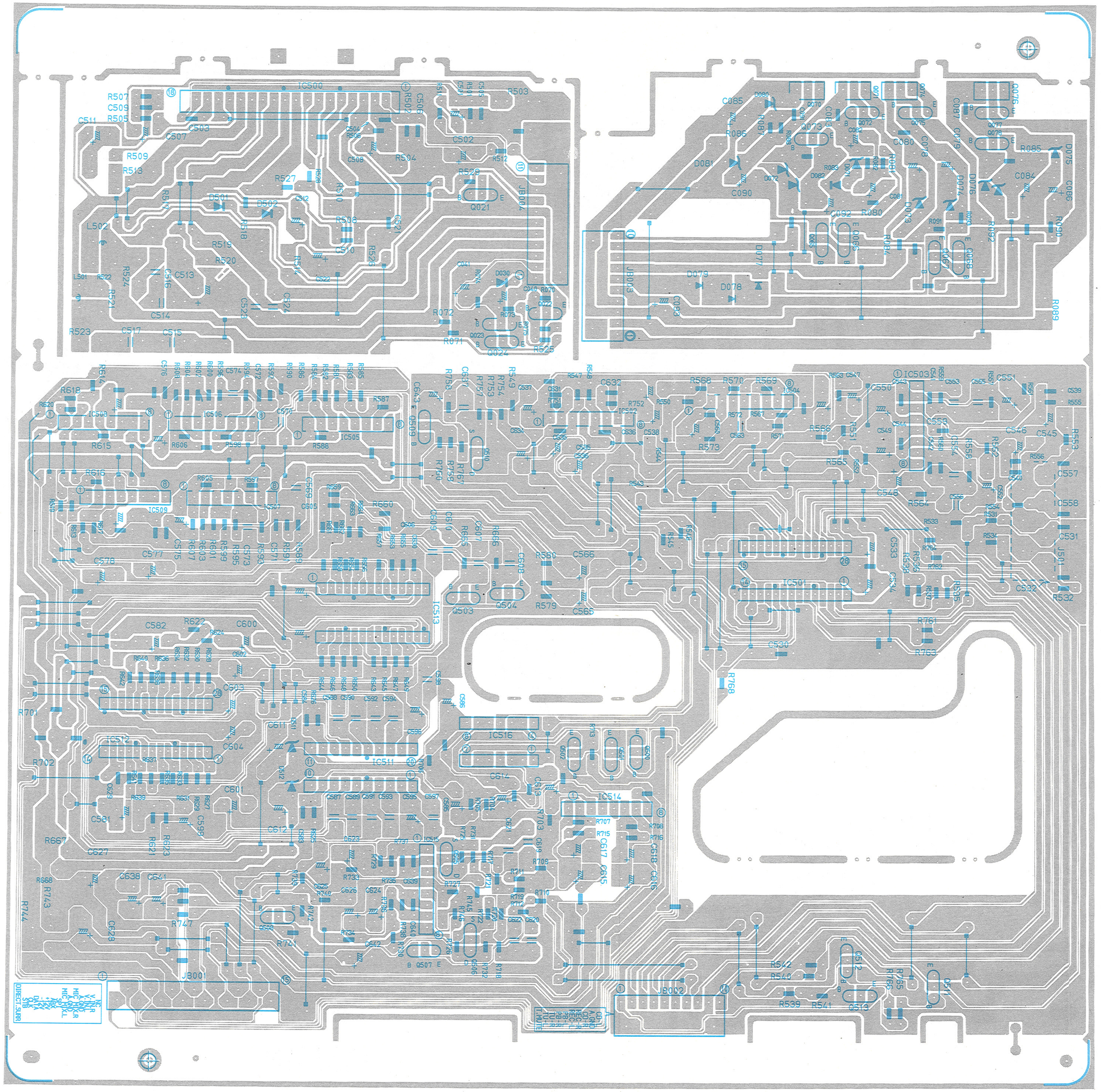

ENH-223-1
ENH-223-2
POWER TRANS FORMER
S1
T001
S2
S3
TH. FUSE
F102
1.25A-125V
F101
1.25A
-125V
F001
2A-125V
TB002
012
BLK
BLK/WHT
AC120V
60Hz
TB001
011
R001
2.7M
COMP
(1/2W)
FW002
FW001
EP001

Printed Circuit Boards

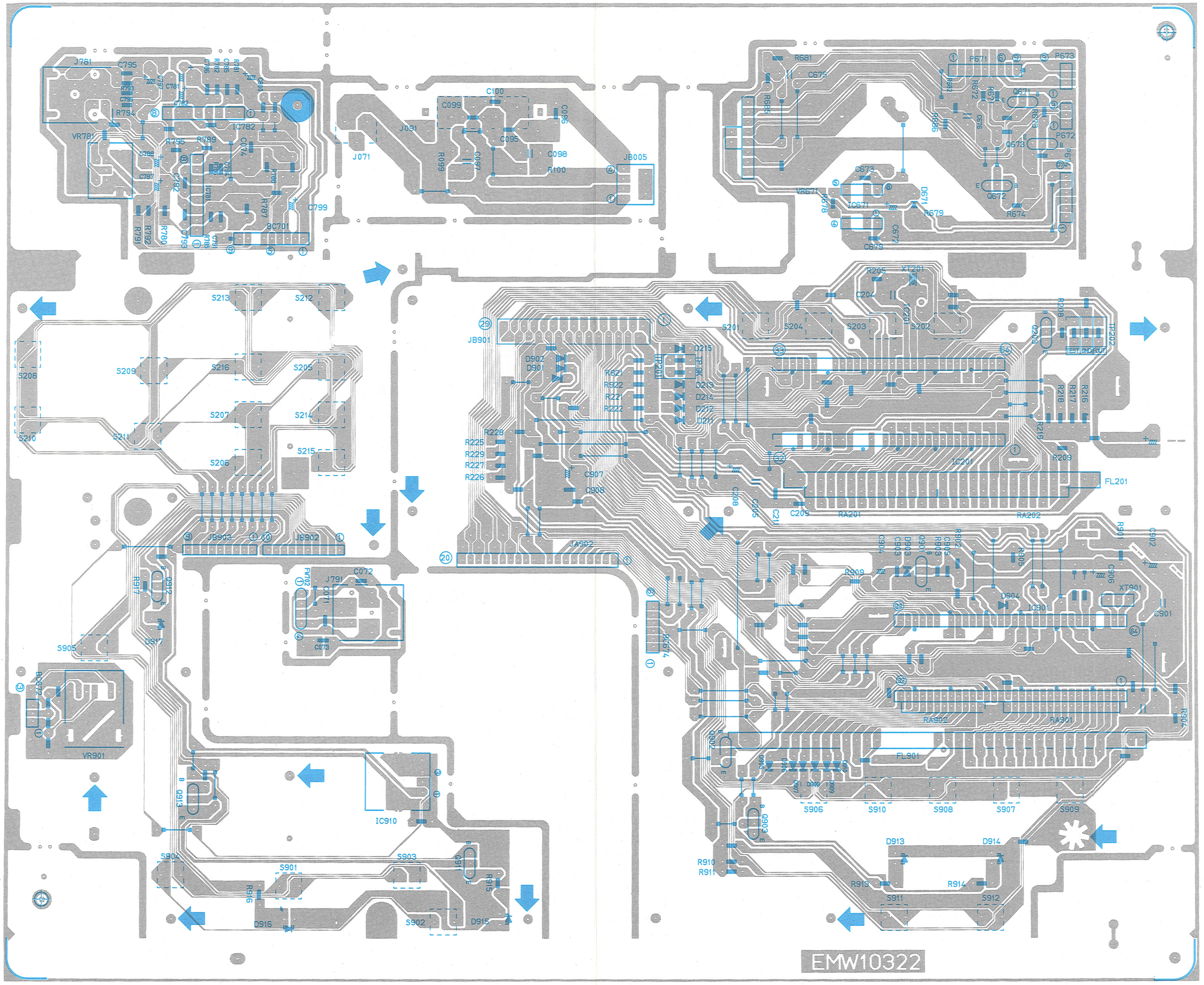
(1) Main & Power Primary CB (ENH-223)


T800mA
F002
006 BRN
005 RED
003 YLW
001 BLU
002 GRY
004 ORG
S001
R045
R047
R046
R001
TB001
TB002
XT050
IC050
JB050
Q050
D050
FW002
FW001
IC001
JA901
EP001
JA001
JA050
EP002
JA010
JA002
JA003
JA004
JA005
JA006
JA007
JA008
JA009
IC002
IC003
RY001
K001
K002
K003
K004
K005
D001
D002
D003
D004
C012
C013
C014
C015
C016
C021
R036
R037
R048
R049
Q001
Q003
Q005
D025
D017

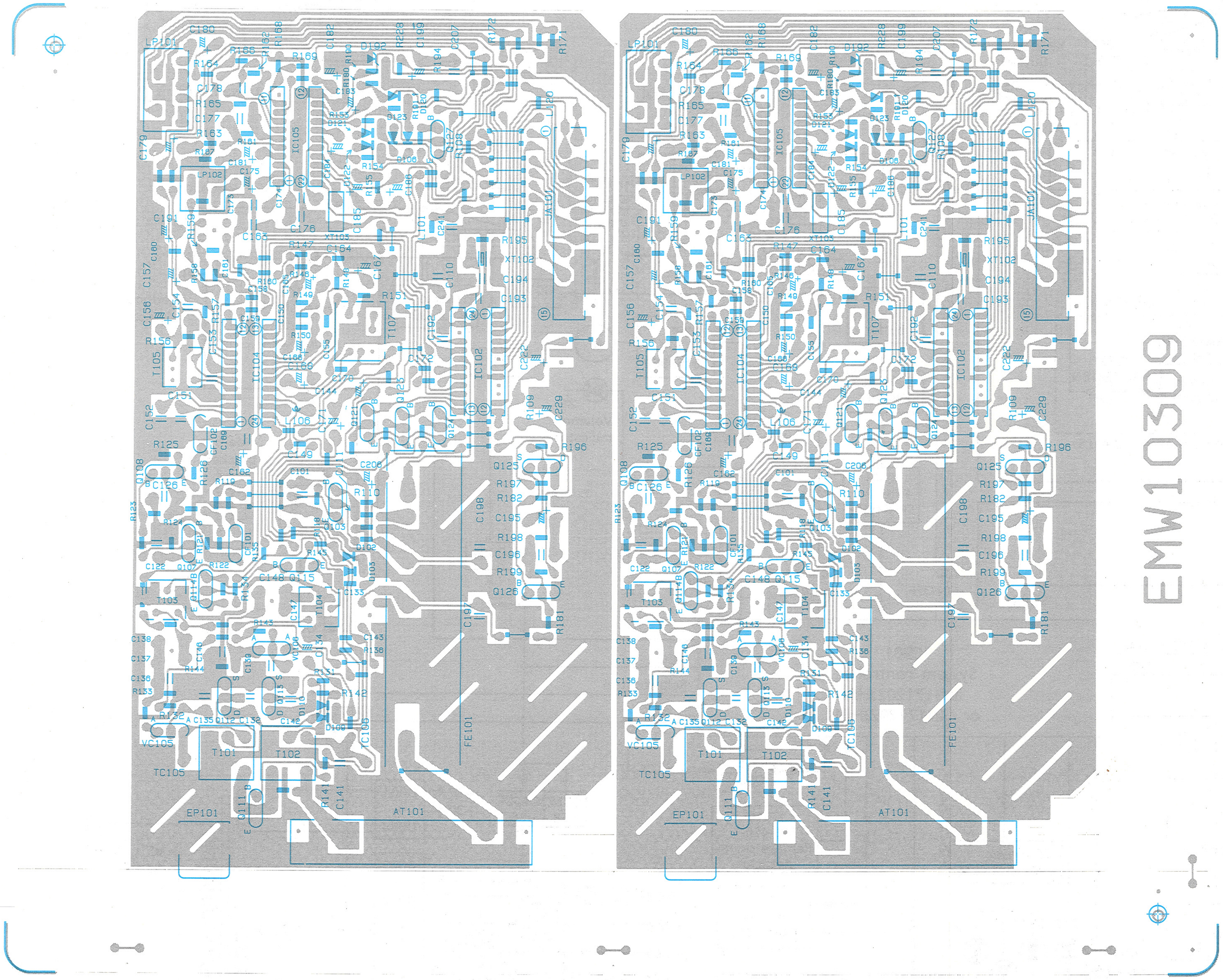
(2) Selector, Amplifier & Regulator CB (ENC-100)


IC500
IC501
IC503
IC505
IC506
IC508
IC509
IC511
IC512
IC514
IC516
JB001
JB002
JB003
JB004
Q021
Q503
Q504
Q507
L501
L502

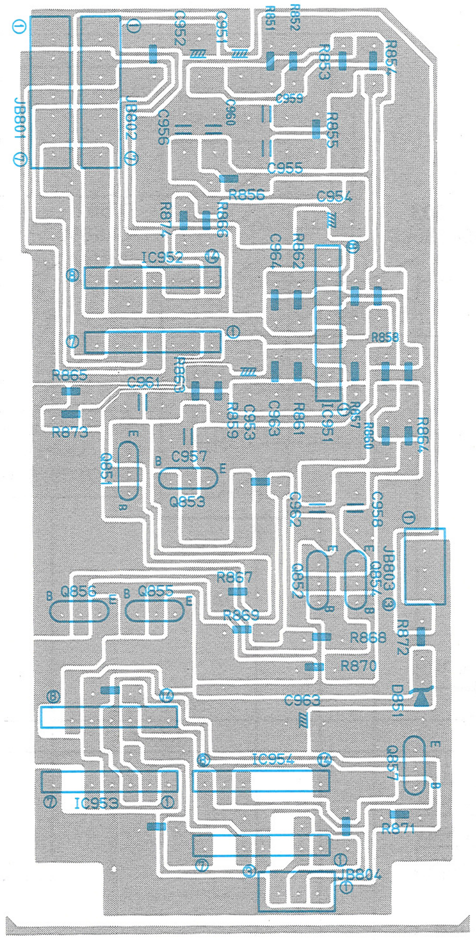
(3) Display, Mic AMP and Volume CB (ENB-167)


J781
C795
VR781
R794
IC782
R795
R789
C799
R791
R792
R780
BC701
C100
C099
J091
J071
R099
C097
C095
C096
C098
R100
JB005
R681
C675
P671
P673
Q671
R672
R673
P672
Q673
C673
D671
VR671
IC671
R679
Q672
R674
C672
C679
R205
XT201
C204
S201
S204
S203
S202
IC202
R208
Q203
TP202
S213
S212
S208
S209
S216
S205
S207
S214
S210
S211
S215
S206
JB901
D902
D901
D215
R921
R922
R221
R222
D213
D214
D212
D211
R228
R225
R229
R227
R226
C907
C908
R218
R217
R216
R219
R209
IC201
FL201
RA201
RA202
C209
C205
C206
C210
JB903
JB902
JA902
C072
J791
C073
R917
C912
D917
S905
BC902
VR901
R909
C904
C903
C905
C901
R903
R902
R905
R901
C902
C906
XT901
D904
IC901
RA902
RA901
R904
FL901
Q902
S906
S910
S908
S907
S909
Q903
D913
D914
R910
R911
R913
R914
S911
S912
Q913
IC910
S904
S903
S901
Q911
R915
R916
S902
D916
D915
EMW10322

(4) Tuner CB (ENA-136)

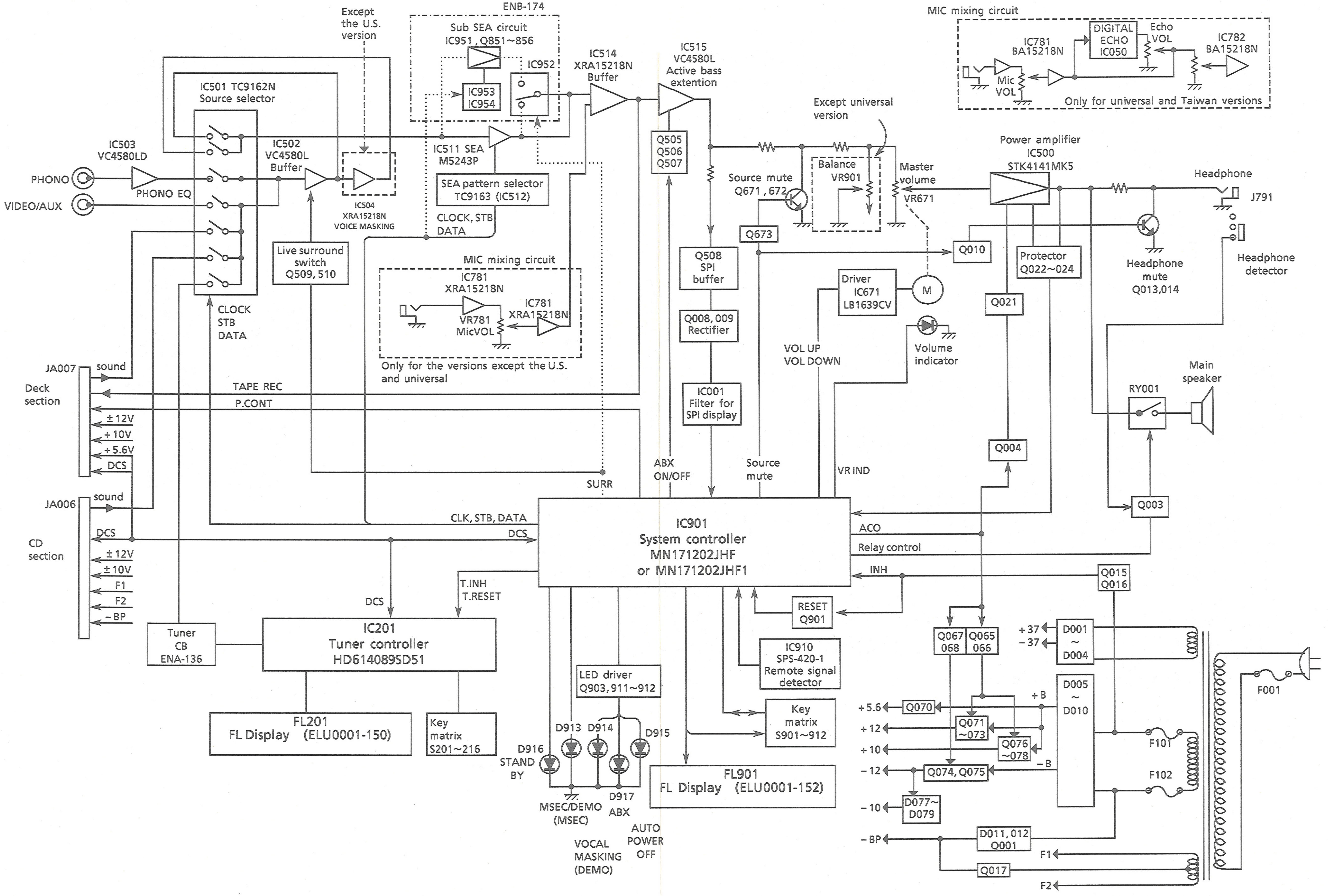

EMW10309
LP101
LP102
IC101
IC102
IC104
IC105
JA101
T101
T102
T103
T105
TC105
VC105
EP101
AT101
FE101
XT102
XT103
CF102

(5) Sub SEA CB (ENB-174)

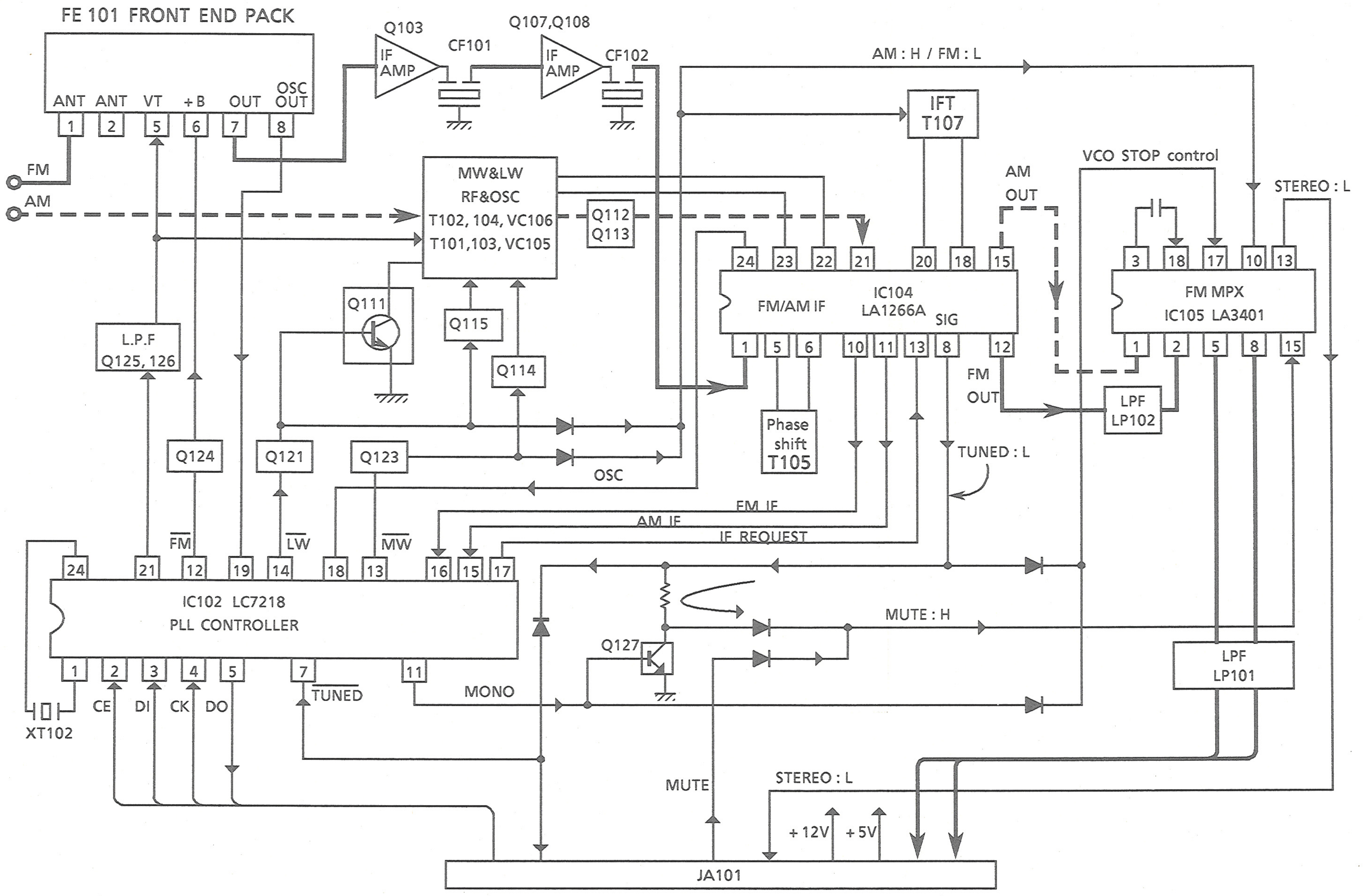

JB801
JB802
JB803
JB804
IC951
IC952
IC953
IC954
Q851
Q853
Q855
Q856
Q857
D851

Block Diagrams

■ System


Except the U.S. version
ENB-174
Sub SEA circuit
IC951, Q851~856
IC952
IC953
IC954
IC514 XRA15218N Buffer
IC515 VC4580L Active bass extention
MIC mixing circuit
IC781 BA15218N
DIGITAL ECHO IC050
Echo VOL
IC782 BA15218N
Mic VOL
Only for universal and Taiwan versions
IC501 TC9162N Source selector
IC503 VC4580LD
IC502 VC4580L Buffer
PHONO
VIDEO/AUX
PHONO EQ
IC504 XRA15218N VOICE MASKING
IC511 SEA M5243P
SEA pattern selector TC9163 (IC512)
CLOCK, STB DATA
Q505 Q506 Q507
Except universal version
Balance VR901
Master volume VR671
Source mute Q671, 672
Q673
Power amplifier IC500 STK4141MK5
Headphone
J791
Q010
Protector Q022~024
Headphone mute Q013,014
Headphone detector
Live surround switch Q509, 510
MIC mixing circuit
IC781 XRA15218N
VR781 MicVOL
IC781 XRA15218N
Only for the versions except the U.S. and universal
Q508 SPI buffer
Q008, 009 Rectifier
Driver IC671 LB1639CV
M
Q021
CLOCK STB DATA
Volume indicator
VOL UP VOL DOWN
JA007
sound
Deck section
TAPE REC
P.CONT
±12V
+10V
+5.6V
DCS
IC001 Filter for SPI display
RY001
Main speaker
Q004
ABX ON/OFF
Source mute
VR IND
SURR
JA006
sound
CD section
DCS
±12V
±10V
F1
F2
−BP
CLK, STB, DATA
DCS
IC901 System controller MN171202JHF or MN171202JHF1
ACO
Relay control
INH
Q003
Q015 Q016
T.INH T.RESET
DCS
RESET Q901
Tuner CB ENA-136
IC201 Tuner controller HD614089SD51
IC910 SPS-420-1 Remote signal detector
Q067 068
Q065 066
+37
−37
D001 ~ D004
LED driver Q903, 911~912
D005 ~ D010
FL201 FL Display (ELU0001-150)
Key matrix S201~216
D913 D914 D915
D916 STAND BY
Key matrix S901~912
+5.6
Q070
+B
+12
Q071 ~073
Q076 ~078
+10
F101
F001
−B
−12
Q074, Q075
F102
FL901 FL Display (ELU0001-152)
D917 ABX
MSEC/DEMO (MSEC)
−10
D077~ D079
AUTO POWER OFF
VOCAL MASKING (DEMO)
−BP
D011, 012 Q001
F1
Q017
F2

■ Tuner


FE 101 FRONT END PACK
ANT ANT VT +B OUT OSC OUT
1 2 5 6 7 8
FM
AM
Q103
IF AMP
CF101
Q107,Q108
IF AMP
CF102
AM : H / FM : L
IFT T107
MW&LW RF&OSC
T102, 104, VC106
T101,103, VC105
Q112 Q113
Q111
Q115
Q114
L.P.F Q125, 126
Q124
Q121
Q123
OSC
AM OUT
VCO STOP control
STEREO : L
FM/AM IF
IC104 LA1266A
SIG
24 23 22 21 20 18 15
1 5 6 10 11 13 8 12
Phase shift T105
FM OUT
LPF LP102
FM MPX
IC105 LA3401
3 18 17 10 13
1 2 5 8 15
TUNED : L
FM IF
AM IF
IF REQUEST
FM
LW
MW
24 21 12 19 14 18 13 16 15 17
IC102 LC7218
PLL CONTROLLER
1 2 3 4 5 7 11
XT102
CE DI CK DO
TUNED
MONO
Q127
MUTE : H
LPF LP101
MUTE
STEREO : L
+12V +5V
JA101

PARTS LIST

Note : All printed circuit boards and its assemblies are not available as service parts.

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- ■ENA-136 ☐ Tuner PC Board Ass'y 2-11
- ■ENB-167 ☐ Display, Mic AMP. & Volume PC Board Ass'y 2-14
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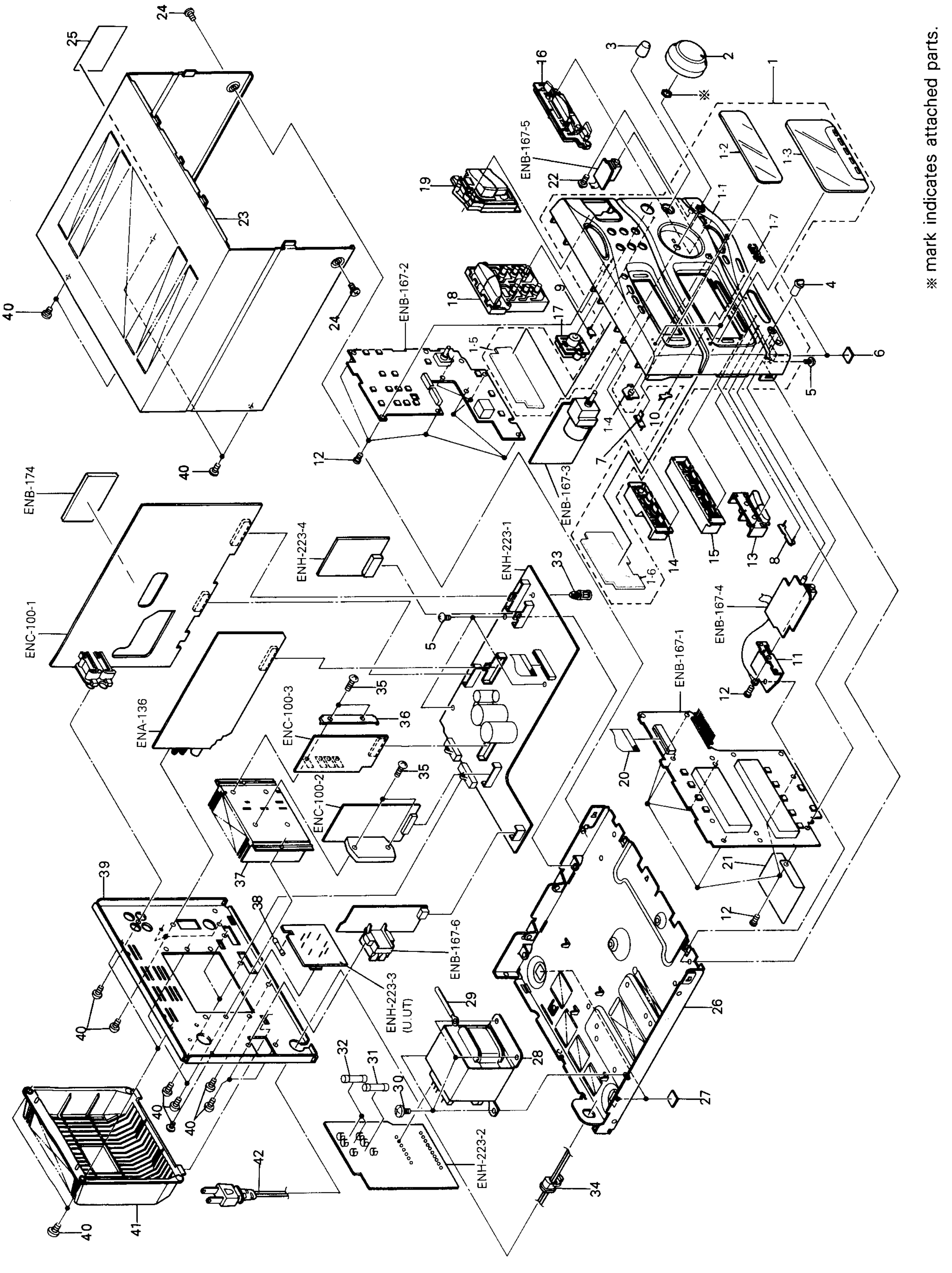
General Exploded View and Parts List


1
1-1
1-2
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ENB-167-1
ENB-167-2
ENB-167-3
ENB-167-4
ENB-167-5
ENB-167-6
ENB-174
ENC-100-1
ENC-100-2
ENC-100-3
ENA-136
ENH-223-1
ENH-223-2
ENH-223-3
(U.UT)
ENH-223-4

※ mark indicates attached parts.

■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-RXMXS4BKJ (S	FRONT PANEL ASSY	1		J
		EFP-RXMXS4BKE (S	FRONT PANEL ASSY	1		C
		EFP-RXMXS4BKE (S	FRONT PANEL ASSY	1		A
		EFP-RXMXS4BKE (S	FRONT PANEL ASSY	1		BS
		EFP-RXMXS4BKE (S	FRONT PANEL ASSY	1		EF
		EFP-RXMXS4BKE (S	FRONT PANEL ASSY	1		EN
		EFP-RXMXS4BKE (S	FRONT PANEL ASSY	1		G
		EFP-RXMXS4BKE (S	FRONT PANEL ASSY	1		GI
		EFP-RXMXS4BKU (S	FRONT PANEL ASSY	1		U
		EFP-RXMXS4BKU (S	FRONT PANEL ASSY	1		UT
	1-1	E102684-010SM	FRONT PANEL	1		C
		E102684-010SM	FRONT PANEL	1		A
		E102684-010SM	FRONT PANEL	1		BS
		E102684-010SM	FRONT PANEL	1		EF
		E102684-010SM	FRONT PANEL	1		EN
		E102684-010SM	FRONT PANEL	1		G
		E102684-010SM	FRONT PANEL	1		GI
		E102684-011SM	FRONT PANEL	1		J
		E102684-012SM	FRONT PANEL	1		U
		E102684-012SM	FRONT PANEL	1		UT
	1-2	E308421-001SM	WINDOW SCREEN	1		C
		E308421-001SM	WINDOW SCREEN	1		A
		E308421-001SM	WINDOW SCREEN	1		BS
		E308421-001SM	WINDOW SCREEN	1		EF
		E308421-001SM	WINDOW SCREEN	1		EN
		E308421-001SM	WINDOW SCREEN	1		G
		E308421-001SM	WINDOW SCREEN	1		GI
		E308421-001SM	WINDOW SCREEN	1		U
		E308421-001SM	WINDOW SCREEN	1		UT
		E308421-002SM	WINDOW SCREEN	1		J
	1-3	E308423-005SM	WINDOW SCREEN	1		C
		E308423-005SM	WINDOW SCREEN	1		A
		E308423-005SM	WINDOW SCREEN	1		BS
		E308423-005SM	WINDOW SCREEN	1		EF
		E308423-005SM	WINDOW SCREEN	1		EN
		E308423-005SM	WINDOW SCREEN	1		G
		E308423-005SM	WINDOW SCREEN	1		GI
		E308423-005SM	WINDOW SCREEN	1		U
		E308423-005SM	WINDOW SCREEN	1		UT
		E308423-006SM	WINDOW SCREEN	1		J
	1-4	E407431-001SM	REMOTE LENS	1		
	1-5	E407435-001SM	FL SCREEN	1		J
	1-6	E407436-001SM	FL SCREEN	1		J
	1-7	E406971-221	JVC MARK	2		
	2	E308414-001SS	VOLUME KNOB	1		
	3	E75737-008	KNOB	1	BALANCE	
	4	E407233-002	KNOB	1	MIC	A
		E407233-002	KNOB	1	MIC	BS
		E407233-002	KNOB	1	MIC	C
		E407233-002	KNOB	1	MIC	EF
		E407233-002	KNOB	1	MIC	EN
		E407233-002	KNOB	1	MIC	G
		E407233-002	KNOB	1	MIC	GI
		E407233-002	KNOB	1	MIC	U
		E407233-002	KNOB	1	MIC	UT

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	5	SBSG3008CC	SCREW	3		
		SBSG3008CC	SCREW	1		C
		SBSG3008CC	SCREW	1		A
		SBSG3008CC	SCREW	1		BS
		SBSG3008CC	SCREW	1		EF
		SBSG3008CC	SCREW	1		EN
		SBSG3008CC	SCREW	1		G
		SBSG3008CC	SCREW	1		GI
		SBSG3008CC	SCREW	1		U
		SBSG3008CC	SCREW	1		UT
	6	E75896-001	SPACER	2	FRONT FOOT	
	7	E407437-001SM	INDICATOR	1		
	8	E407438-001SM	INDICATOR	1		
	9	E407439-001SM	INDICATOR	1		
	10	E407440-001SM	INDICATOR	1		
	11	E407580-001SM	MIC BRACKET	1		C
		E407580-001SM	MIC BRACKET	1		A
		E407580-001SM	MIC BRACKET	1		BS
		E407580-001SM	MIC BRACKET	1		EF
		E407580-001SM	MIC BRACKET	1		EN
		E407580-001SM	MIC BRACKET	1		G
		E407580-001SM	MIC BRACKET	1		GI
		E407580-001SM	MIC BRACKET	1		U
		E407580-001SM	MIC BRACKET	1		UT
	12	SDSF2608Z	SCREW	12		
		SDSF2608Z	SCREW	1		J
		SDSF2608Z	SCREW	2		C
		SDSF2608Z	SCREW	2		A
		SDSF2608Z	SCREW	2		BS
		SDSF2608Z	SCREW	2		EF
		SDSF2608Z	SCREW	2		EN
		SDSF2608Z	SCREW	2		G
		SDSF2608Z	SCREW	2		GI
		SDSF2608Z	SCREW	2		U
		SDSF2608Z	SCREW	2		UT
	13	E308427-001SM	PUSH BUTTON	1	MSEC	
	14	E308425-001SM	PUSH BUTTON	1	TIMER	
	15	E308426-001SM	PUSH BUTTON	1	SEA	
	16	E207794-001SM	PUSH BUTTON	1	POWER	
	17	E308428-001SM	PUSH BUTTON	1	BASS	
	18	E207788-001SM	PUSH BUTTON	1	TUNER BAND	J
		E207788-001SM	PUSH BUTTON	1	TUNER BAND	C
		E207788-001SM	PUSH BUTTON	1	TUNER BAND	A
		E207788-001SM	PUSH BUTTON	1	TUNER BAND	U
		E207788-001SM	PUSH BUTTON	1	TUNER BAND	UT
		E207788-002SM	PUSH BUTTON	1	TUNER BAND	BS
		E207788-002SM	PUSH BUTTON	1	TUNER BAND	EF
		E207788-002SM	PUSH BUTTON	1	TUNER BAND	EN
		E207788-002SM	PUSH BUTTON	1	TUNER BAND	G
		E207788-002SM	PUSH BUTTON	1	TUNER BAND	GI
	19	E207858-001SM	PUSH BUTTON ASSY	1	TUNING,PRESET	
	20	EWR629K-25TTJ3	FLAT WIRE	1	FW901	
	21	E308547-002	SHIELD PLATE ASSY	1		C
		E308547-002	SHIELD PLATE ASSY	1		A
		E308547-002	SHIELD PLATE ASSY	1		BS

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
		E308547-002	SHIELD PLATE ASSY	1		EF
		E308547-002	SHIELD PLATE ASSY	1		EN
		E308547-002	SHIELD PLATE ASSY	1		G
		E308547-002	SHIELD PLATE ASSY	1		GI
		E308547-002	SHIELD PLATE ASSY	1		U
		E308547-002	SHIELD PLATE ASSY	1		UT
	22	E407098-001	SPECIAL SCREW	1		
	23	E207787-221	METAL COVER	1		
	24	SDSG3008M	SCREW	2		
	25	E308522-027	RATING LABEL	1		UT
	26	E102616-003SS	CHASSIS BASE	1		
	27	E75896-006	FELT SPACER	2	REAR FOOT	
⚠	28	ETP1070-32JAJ	POWER TRANSFORMER	1	T001	J
⚠		ETP1070-32JAJ	POWER TRANSFORMER	1	T001	C
⚠		ETP1070-32FAJ	POWER TRANSFORMER	1	T001	U
⚠		ETP1070-32FAJ	POWER TRANSFORMER	1	T001	UT
⚠		ETP1070-32EAJ	POWER TRANSFORMER	1	T001	A
⚠		ETP1070-32EAJ	POWER TRANSFORMER	1	T001	EF
⚠		ETP1070-32EAJ	POWER TRANSFORMER	1	T001	EN
⚠		ETP1070-32EAJ	POWER TRANSFORMER	1	T001	G
⚠		ETP1070-32EAJ	POWER TRANSFORMER	1	T001	GI
⚠		ETP1070-32EAJBS	POWER TRANSFORMER	1	T001	BS
	29	E72018-001	WIRE CLAMP	1		
	30	E65389-004	SPECIAL SCREW	4		
⚠	31	QMF0007-2R0J1	FUSE	1	F001 (T2.0A/125V)	J
⚠		QMF0007-2R0J1	FUSE	1	F001 (T2.0A/125V)	C
⚠		QMF51E2-R80J1	FUSE	1	F001 (T800mA/250V)	A
⚠		QMF51E2-R80J1BS	FUSE	1	F001 (T800mA/250V)	BS
⚠		QMF51E2-R80J1	FUSE	1	F001 (T800mA/250V)	EF
⚠		QMF51E2-R80J1	FUSE	1	F001 (T800mA/250V)	EN
⚠		QMF51E2-R80J1	FUSE	1	F001 (T800mA/250V)	G
⚠		QMF51E2-R80J1	FUSE	1	F001 (T800mA/250V)	GI
⚠		QMF51E2-1R6J1	FUSE	1	F001 (T1.6A/250V)	U
⚠		QMF51E2-1R6J1	FUSE	1	F001 (T1.6A/250V)	UT
⚠	32	QMF0007-1R25J1	FUSE	2	F101, F102 (T1.25A/125V)	J
⚠		QMF0007-1R25J1	FUSE	2	F101, F102 (T1.25A/125V)	C
⚠		QMF51E2-1R25J1	FUSE	2	F101, F102 (T1.25A/250V)	A
⚠		QMF51E2-1R25J1	FUSE	2	F101, F102 (T1.25A/250V)	EF
⚠		QMF51E2-1R25J1	FUSE	2	F101, F102 (T1.25A/250V)	EN
⚠		QMF51E2-1R25J1	FUSE	2	F101, F102 (T1.25A/250V)	G
⚠		QMF51E2-1R25J1	FUSE	2	F101, F102 (T1.25A/250V)	GI
⚠		QMF51E2-1R25J1	FUSE	2	F101, F102 (T1.25A/250V)	U
⚠		QMF51E2-1R25J1	FUSE	2	F101, F102 (T1.25A/250V)	UT
⚠		QMF51E2-1R2J1BS	FUSE	2	F101, F102 (T1.25A/250V)	BS
	33	E308544-001	FASTENER	1		
⚠	34	QHS3876-162	CORD STOPPER	1		A
⚠		QHS3876-162	CORD STOPPER	1		C
⚠		QHS3876-162	CORD STOPPER	1		EF
⚠		QHS3876-162	CORD STOPPER	1		EN
⚠		QHS3876-162	CORD STOPPER	1		G
⚠		QHS3876-162	CORD STOPPER	1		GI
⚠		QHS3876-162	CORD STOPPER	1		J
⚠		QHS3876-162	CORD STOPPER	1		U
⚠		QHS3876-162	CORD STOPPER	1		UT
⚠		QHS3876-162BS	CORD STOPPER	1		BS

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	35	SBSG3014CC	SCREW	4		
	36	E407434-001SM	LEAF SPRING	1		
	37	E308420-001SM	HEAT SINK	1		
⚠	38	QMF51E2-R80J1	FUSE	1	F002 (T0.8A / 250V)	U
⚠		QMF51E2-R80J1	FUSE	1	F002 (T0.8A / 250V)	UT
	39	E207785-007SM	REAR PANEL	1		U
		E207785-007SM	REAR PANEL	1		UT
		E207785-008SM	REAR PANEL	1		EF
		E207785-008SM	REAR PANEL	1		EN
		E207785-008SM	REAR PANEL	1		G
		E207785-008SM	REAR PANEL	1		GI
		E207785-009SM	REAR PANEL	1		A
		E207785-009SM	REAR PANEL	1		BS
		E207785-016SM	REAR PANEL	1		C
		E207785-017SM	REAR PANEL	1		J
	40	E73273-003	SPECIAL SCREW	17		
		E73273-003	SPECIAL SCREW	2		U
		E73273-003	SPECIAL SCREW	2		UT
	41	E207356-001SM	REAR COVER	1		C
		E207356-001SM	REAR COVER	1		A
		E207356-001SM	REAR COVER	1		BS
		E207356-001SM	REAR COVER	1		EF
		E207356-001SM	REAR COVER	1		EN
		E207356-001SM	REAR COVER	1		G
		E207356-001SM	REAR COVER	1		GI
		E207356-001SM	REAR COVER	1		U
		E207356-001SM	REAR COVER	1		UT
		E207356-002SM	REAR COVER	1		J
⚠	42	QMP1D00-200H	POWER CORD	1		J
⚠		QMP1D00-200H	POWER CORD	1		C
⚠		QMP25F0-244	POWER CORD	1		A
⚠		QMP3900-200E	POWER CORD	1		EF
⚠		QMP3900-200	POWER CORD	1		EN
⚠		QMP3900-200	POWER CORD	1		G
⚠		QMP3900-200	POWER CORD	1		GI
⚠		QMP5530-0085BS	POWER CORD	1		BS
⚠		QMP7520-200	POWER CORD	1		U
⚠		QMP7520-200	POWER CORD	1		UT
	—	E307570-001	NUMBER LABEL	1		J
		E61029-005	NUMBER LABEL	1		C
		E61029-005	NUMBER LABEL	1		A
		E61029-005	NUMBER LABEL	1		BS
		E61029-005	NUMBER LABEL	1		EF
		E61029-005	NUMBER LABEL	1		EN
		E61029-005	NUMBER LABEL	1		G
		E61029-005	NUMBER LABEL	1		GI
		E61029-005	NUMBER LABEL	1		U
		E61029-005	NUMBER LABEL	1		UT
	—	E75803-001	CAUTION LABEL	1		J
		E75804-001	CAUTION LABEL	1		C
	—	E45858-002	LABEL	1		C
	—	E70027-001	LABEL	1		EN
	—	QZL1031-101	LABEL	1		EF
	—	E407619-009	FTZ LABEL	1		G

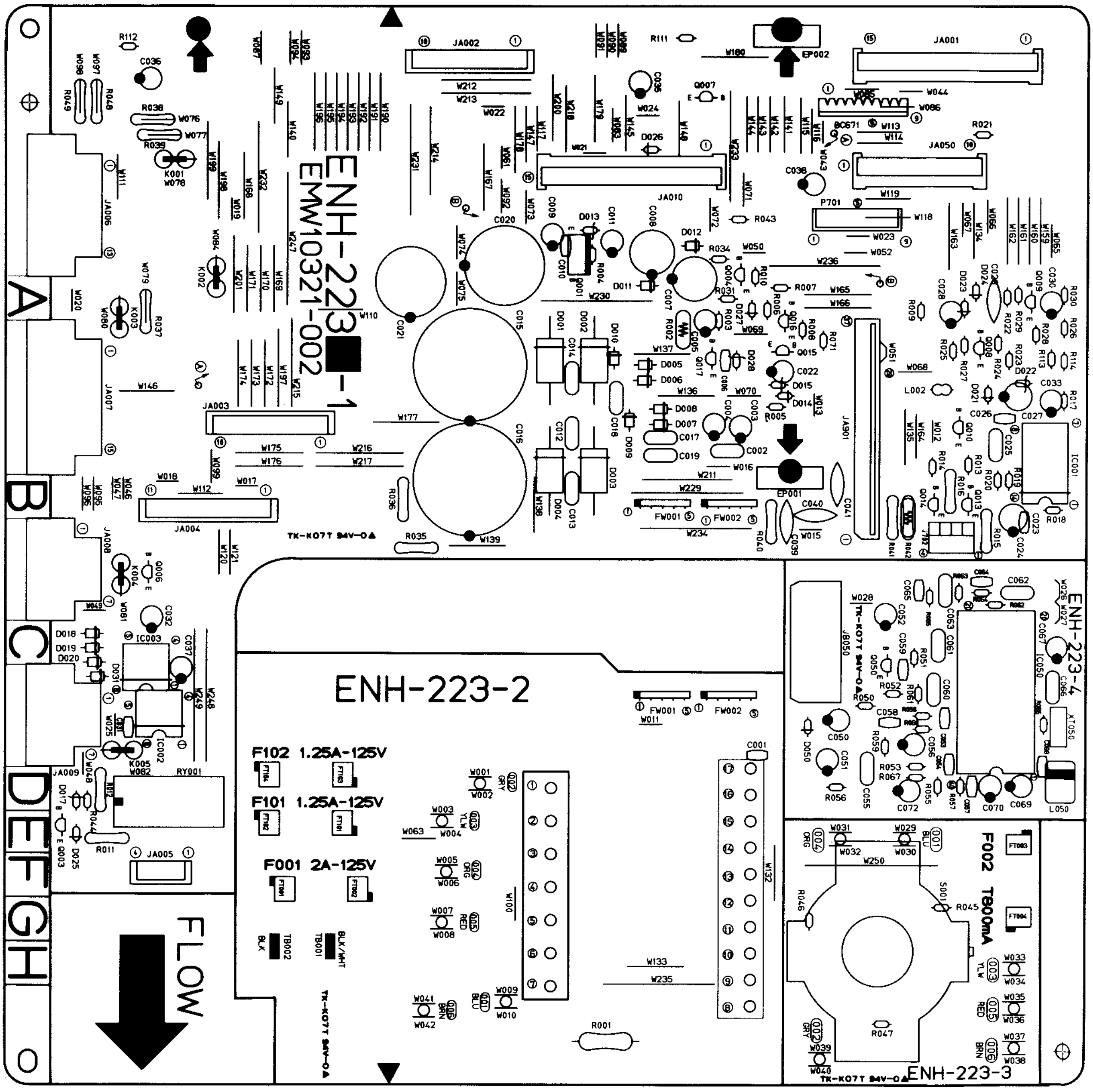
The Marks for Designated Areas ⚠ SAFETY PARTS

J .... the U.S.A. C .... Canada A ...... Australia EN ...... Scandinavia
EF ...... Continental Europe BS ...... the U.K. G ...... Germany GI ...... Itary
UT ...... Taiwan U ...... Universal Type No mark indicates all areas.

Printed Circuit Board Ass'y and Parts List

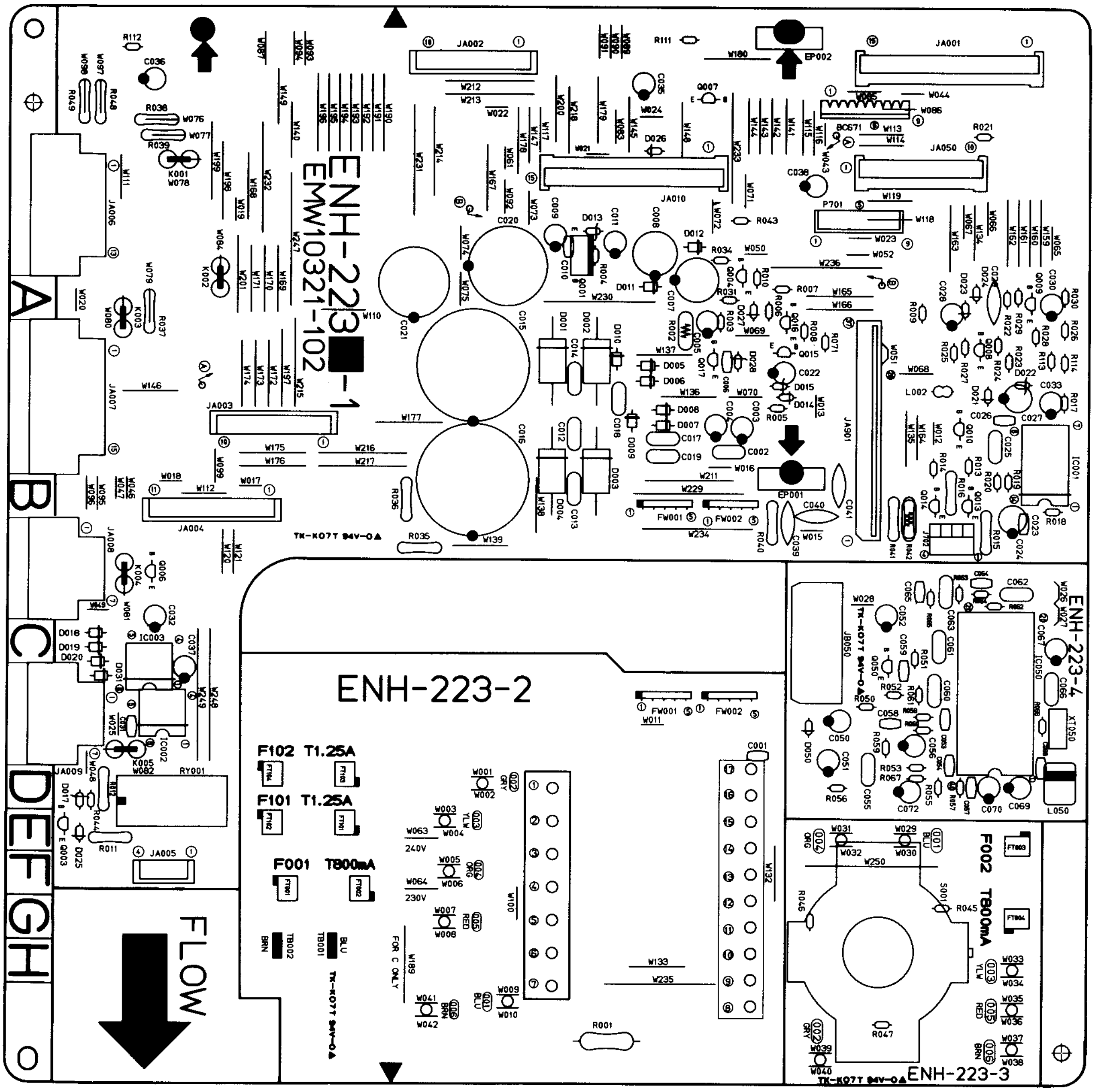
■ENH-223☐ Main & Power Primary PC Board Ass'y (Only for the U.S.A. , Canada)

Note : ENH-223☐ varies according to the areas employed. See note (1) when placing an order.


ENH-223■-1
EMW10321-002
ENH-223-2
ENH-223-3
ENH-223-4
F102 1.25A-125V
F101 1.25A-125V
F001 2A-125V
F002 T800mA
FLOW
A
B
C
DEF
GH
JA001
JA002
JA003
JA004
JA005
JA006
JA007
JA008
JA009
JA010
JA050
IC001
IC002
IC003
IC050
RY001
P701
EP001
EP002
TB001
TB002
BLK
BLK/WHT
TK-K07T 94V-0▲

■ENH-223☐ Main & Power Primary PC Board Ass'y (Except for the U.S.A. , Canada)

Note : ENH-223☐ varies according to the areas employed. See note (1) when placing an order.


ENH-223■-1
EMW10321-102
ENH-223-2
ENH-223-3
ENH-223-4
F102 T1.25A
F101 T1.25A
F001 T800mA
F002 T800mA
FLOW
A
B
C
DEFGH
JA001
JA002
JA003
JA004
JA005
JA006
JA007
JA008
JA009
JA010
JA050
JA501
EP001
EP002
IC001
IC002
IC003
IC050
RY001
FW001
FW002
TK-KO7T 94V-0

Note (1)

PC Board Ass'y	Designated Areas
ENH-223 🄰	the U.S.A.
ENH-223 🄱	Canada
ENH-223 🄲	Taiwan, Universal Type
ENH-223 🄳	Scandinavia Continental Europe
ENH-223 🄴	Australia
ENH-223 🄵BS	the U.K.
ENH-223 🄶	Germany, Italy

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q001	2SB1357(E,F)	SILICON ROHM	
	Q003	2SC1740S(R,S)	SILICON ROHM	
	Q004	DTA144ES	SILICON ROHM	
	Q008	2SD2144S(VW)	SILICON ROHM	
	Q009	2SC1740S(R,S)	SILICON ROHM	
	Q010	DTA144ES	SILICON ROHM	
	Q013	2SD2144S(VW)	SILICON ROHM	
	Q014	2SD2144S(VW)	SILICON ROHM	
	Q015	DTC114YS	SILICON ROHM	
	Q016	DTC114YS	SILICON ROHM	
	Q017	2SC1741AS(QR)	SILICON ROHM	
	Q050	2SC1740S(R,S)	SILICON ROHM	C

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC001	XR1097CP	I.C. EXAR JAPAN	
	IC050	M50197P	I.C. MITSUBISHI	C

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D001	S3V20F	SILICON SINDENGEN	A
	D001	S3V20F	SILICON SINDENGEN	B
⚠	D001	30DL2FC	SILICON NIHONINTER	C
⚠	D001	30DL2FC	SILICON NIHONINTER	D
⚠	D001	30DL2FC	SILICON NIHONINTER	E
⚠	D001	30DL2FC	SILICON NIHONINTER	FBS
⚠	D001	30DL2FC	SILICON NIHONINTER	G
	D002	S3V20F	SILICON SINDENGEN	A
	D002	S3V20F	SILICON SINDENGEN	B
⚠	D002	30DL2FC	SILICON NIHONINTER	C
⚠	D002	30DL2FC	SILICON NIHONINTER	D
⚠	D002	30DL2FC	SILICON NIHONINTER	E
⚠	D002	30DL2FC	SILICON NIHONINTER	FBS
⚠	D002	30DL2FC	SILICON NIHONINTER	G
	D003	S3V20F	SILICON SINDENGEN	A
	D003	S3V20F	SILICON SINDENGEN	B
⚠	D003	30DL2FC	SILICON NIHONINTER	C
⚠	D003	30DL2FC	SILICON NIHONINTER	D
⚠	D003	30DL2FC	SILICON NIHONINTER	E
⚠	D003	30DL2FC	SILICON NIHONINTER	FBS
⚠	D003	30DL2FC	SILICON NIHONINTER	G
	D004	S3V20F	SILICON SINDENGEN	A
	D004	S3V20F	SILICON SINDENGEN	B
⚠	D004	30DL2FC	SILICON NIHONINTER	C
⚠	D004	30DL2FC	SILICON NIHONINTER	D
⚠	D004	30DL2FC	SILICON NIHONINTER	E
⚠	D004	30DL2FC	SILICON NIHONINTER	FBS
⚠	D004	30DL2FC	SILICON NIHONINTER	G
	D005	1SR139-200	SILICON ROHM	
	D006	1SR139-200	SILICON ROHM	
	D007	1SR139-200	SILICON ROHM	
	D008	1SR139-200	SILICON ROHM	
	D009	1SR139-200	SILICON ROHM	
	D010	1SR139-200	SILICON ROHM	
	D011	1SR139-200	SILICON ROHM	
	D012	1SR139-200	SILICON ROHM	
	D013	MTZ30JC	ZENER ROHM	
	D014	1SS119	SILICON HITACHI	
	D015	MTZ5.1JC	ZENER ROHM	
	D017	MTZ8.2JC	ZENER ROHM	C
	D017	MTZ8.2JC	ZENER ROHM	D
	D017	MTZ8.2JC	ZENER ROHM	E
	D017	MTZ8.2JC	ZENER ROHM	FBS
	D017	MTZ8.2JC	ZENER ROHM	G
	D021	1SS119	SILICON HITACHI	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D022	MTZ5.1JC	ZENER ROHM	
	D023	1SS119	SILICON HITACHI	
	D025	1SS119	SILICON HITACHI	
	D026	1SS119	SILICON HITACHI	
	D027	1SS119	SILICON HITACHI	
	D028	MTZ5.6JC	ZENER ROHM	
	D050	1SS119	SILICON HITACHI	C

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C002	QFV81HJ-104	0.1MF 50V T.FILM	C
	C002	QFV81HJ-104	0.1MF 50V T.FILM	D
	C002	QFV81HJ-104	0.1MF 50V T.FILM	E
	C002	QFV81HJ-104	0.1MF 50V T.FILM	FBS
	C002	QFV81HJ-104	0.1MF 50V T.FILM	G
	C003	QETB1HM-106	10MF 50V ELECTRO	C
	C003	QETB1HM-106	10MF 50V ELECTRO	D
	C003	QETB1HM-106	10MF 50V ELECTRO	E
	C003	QETB1HM-106	10MF 50V ELECTRO	FBS
	C003	QETB1HM-106	10MF 50V ELECTRO	G
	C004	QETB1HM-106	10MF 50V ELECTRO	C
	C004	QETB1HM-106	10MF 50V ELECTRO	D
	C004	QETB1HM-106	10MF 50V ELECTRO	E
	C004	QETB1HM-106	10MF 50V ELECTRO	FBS
	C004	QETB1HM-106	10MF 50V ELECTRO	G
	C005	QETB1HM-106	10MF 50V ELECTRO	
	C006	QCVB1CM-103	0.01MF 16V CERAMIC	
	C007	QETB1HM-227	220MF 50V ELECTRO	
	C008	QETB1HM-227	220MF 50V ELECTRO	
	C009	QETB1HM-226	22MF 50V ELECTRO	
	C010	QCGB1HK-102	1000PF 50V CERAMIC	
	C011	QETB1HM-226	22MF 50V ELECTRO	
	C012	QFN82AK-103	0.01MF 100V MYLAR	A
	C012	QFN82AK-103	0.01MF 100V MYLAR	B
	C012	QFV82AJ-104	0.1MF 100V T.FILM	C
	C012	QFV82AJ-104	0.1MF 100V T.FILM	D
	C012	QFV82AJ-104	0.1MF 100V T.FILM	E
	C012	QFV82AJ-104	0.1MF 100V T.FILM	FBS
	C012	QFV82AJ-104	0.1MF 100V T.FILM	G
	C013	QFN81HJ-103	0.01MF 50V MYLAR	A
	C013	QFN81HJ-103	0.01MF 50V MYLAR	B
	C013	QFN81HJ-104	0.1MF 50V MYLAR	C
	C013	QFN81HJ-104	0.1MF 50V MYLAR	D
	C013	QFN81HJ-104	0.1MF 50V MYLAR	E
	C013	QFN81HJ-104	0.1MF 50V MYLAR	FBS
	C013	QFN81HJ-104	0.1MF 50V MYLAR	G
	C014	QFN81HJ-103	0.01MF 50V MYLAR	A
	C014	QFN81HJ-103	0.01MF 50V MYLAR	B
	C014	QFN81HJ-104	0.1MF 50V MYLAR	C
	C014	QFN81HJ-104	0.1MF 50V MYLAR	D
	C014	QFN81HJ-104	0.1MF 50V MYLAR	E
	C014	QFN81HJ-104	0.1MF 50V MYLAR	FBS
	C014	QFN81HJ-104	0.1MF 50V MYLAR	G
	C015	EEW4208-568E	5600MF ELECTRO	
	C016	EEW4208-568E	5600MF ELECTRO	
	C017	QFV81HJ-104	0.1MF 50V T.FILM	
	C018	QFV81HJ-104	0.1MF 50V T.FILM	
	C019	QFV81HJ-104	0.1MF 50V T.FILM	
	C020	QETB1VM-338	3300MF 35V ELECTRO	
	C021	QETB1VM-228N	2200MF 35V ELECTRO	
	C022	QETB1HM-225	2.2MF 50V ELECTRO	
	C023	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C024	QETB1AM-107	100MF 10V ELECTRO	
	C025	QFLB1HJ-102	1000PF 50V MYLAR	
	C026	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C027	QETB1AM-107	100MF 10V ELECTRO	
	C028	QCF21HP-473	0.047MF 50V CERAMIC	
	C029	QETB1HM-105	1MF 50V ELECTRO	
	C030	QETB1EM-106	10MF 25V ELECTRO	
	C033	QETB1EM-106	10MF 25V ELECTRO	
	C039	QCY21HK-103	0.01MF 50V CERAMIC	C
	C039	QCY21HK-103	0.01MF 50V CERAMIC	D
	C039	QCY21HK-103	0.01MF 50V CERAMIC	E
	C039	QCY21HK-103	0.01MF 50V CERAMIC	FBS
	C039	QCY21HK-103	0.01MF 50V CERAMIC	G
	C040	QCY21HK-103	0.01MF 50V CERAMIC	C
	C040	QCY21HK-103	0.01MF 50V CERAMIC	D
	C040	QCY21HK-103	0.01MF 50V CERAMIC	E
	C040	QCY21HK-103	0.01MF 50V CERAMIC	FBS
	C040	QCY21HK-103	0.01MF 50V CERAMIC	G
	C050	QETB1CM-476	47MF 16V ELECTRO	C
	C051	QETB1HM-105	1MF 50V ELECTRO	C
	C052	QETB1HM-475	4.7MF 50V ELECTRO	C
	C053	QCGB1HK-102	1000PF 50V CERAMIC	C
	C054	QCGB1HK-102	1000PF 50V CERAMIC	C
	C055	QFLB1HJ-223	0.022MF 50V MYLAR	C
	C056	QETB1HM-105	1MF 50V ELECTRO	C
	C057	QCVB1CM-103	0.01MF 16V CERAMIC	C
	C058	QCVB1CM-103	0.01MF 16V CERAMIC	C
	C059	QCVB1CM-103	0.01MF 16V CERAMIC	C

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C060	QFLB1HJ-473	0.047MF 50V MYLAR	C
	C061	QFLB1HJ-473	0.047MF 50V MYLAR	C
	C062	QFV81HJ-334	0.33MF 50V T.FILM	C
	C063	QFV81HJ-334	0.33MF 50V T.FILM	C
	C064	QCVB1CM-103	0.01MF 16V CERAMIC	C
	C065	QCVB1CM-103	0.01MF 16V CERAMIC	C
	C066	QCZ0202-155	1.5MF 25V CERAMIC	C
	C067	QETB1AM-107	100MF 10V ELECTRO	C
	C068	QCVB1CM-103	0.01MF 16V CERAMIC	C
	C069	QETB1AM-107	100MF 10V ELECTRO	C
	C070	QETB1AM-476	47MF 10V ELECTRO	C
	C072	QETB1HM-105	1MF 50V ELECTRO	C

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R001	QRC128K-275EM	2.7M 1/2W COMPOSI	A
⚠	R001	QRC128K-275EM	2.7M 1/2W COMPOSI	B
⚠	R002	PTH61G25AR4R7M	FUSIBLE RE	SI
	R003	QRD167J-223	22K 1/6W CARBON	
	R004	QRD167J-332	3.3K 1/6W CARBON	
	R005	QRD167J-103	10K 1/6W CARBON	
	R006	QRD167J-103	10K 1/6W CARBON	
	R007	QRD167J-102	1K 1/6W CARBON	
	R008	QRD167J-102	1K 1/6W CARBON	
	R009	QRD167J-152	1.5K 1/6W CARBON	
	R010	QRD167J-222	2.2K 1/6W CARBON	
⚠	R011	QRD14CJ-271S	270 1/4W UNF.CARBON	A
⚠	R011	QRD14CJ-271S	270 1/4W UNF.CARBON	B
⚠	R011	QRZ0077-271	270 1/4W FUSIBLE	C
⚠	R011	QRZ0077-271	270 1/4W FUSIBLE	D
⚠	R011	QRZ0077-271	270 1/4W FUSIBLE	E
⚠	R011	QRZ0077-271	270 1/4W FUSIBLE	FBS
⚠	R011	QRZ0077-271	270 1/4W FUSIBLE	G
⚠	R012	QRD14CJ-271S	270 1/4W UNF.CARBON	
	R013	QRD167J-272	2.7K 1/6W CARBON	
	R014	QRD167J-272	2.7K 1/6W CARBON	
⚠	R015	QRD14CJ-681S	680 1/4W UNF.CARBON	
⚠	R016	QRD14CJ-681S	680 1/4W UNF.CARBON	
	R017	QRD167J-223	22K 1/6W CARBON	
	R018	QRD167J-223	22K 1/6W CARBON	
	R019	QRD167J-563	56K 1/6W CARBON	
	R020	QRD167J-152	1.5K 1/6W CARBON	
	R021	QRD167J-331	330 1/6W CARBON	
	R022	QRD167J-512	5.1K 1/6W CARBON	
	R023	QRD167J-562	5.6K 1/6W CARBON	
	R024	QRD167J-473	47K 1/6W CARBON	
	R025	QRD167J-103	10K 1/6W CARBON	
	R026	QRD167J-273	27K 1/6W CARBON	
	R027	QRD167J-104	100K 1/6W CARBON	
	R028	QRD167J-102	1K 1/6W CARBON	
	R029	QRD167J-204	200K 1/6W CARBON	
	R030	QRD167J-224	220K 1/6W CARBON	
	R031	QRD167J-222	2.2K 1/6W CARBON	
	R034	QRD167J-472	4.7K 1/6W CARBON	
	R035	QRD12CJ-331S	330 1/2W R.NETWORK	
	R036	QRD12CJ-331S	330 1/2W R.NETWORK	
⚠	R037	QRD14CJ-3R9S	3.9 1/4W UNF.CARBON	A
⚠	R037	QRD14CJ-3R9S	3.9 1/4W UNF.CARBON	B
⚠	R038	QRD14CJ-3R9S	3.9 1/4W UNF.CARBON	A
⚠	R038	QRD14CJ-3R9S	3.9 1/4W UNF.CARBON	B
⚠	R039	QRD14CJ-3R9S	3.9 1/4W UNF.CARBON	A
⚠	R039	QRD14CJ-3R9S	3.9 1/4W UNF.CARBON	B
⚠	R040	QRD14CJ-2R2S	2.2 1/4W UNF.CARBON	
⚠	R041	QRD14CJ-120S	12 1/4W UNF.CARBON	A
⚠	R041	QRD14CJ-120S	12 1/4W UNF.CARBON	B
⚠	R041	QRZ0077-120	12 1/4W FUSIBLE	C
⚠	R041	QRZ0077-120	12 1/4W FUSIBLE	D
⚠	R041	QRZ0077-120	12 1/4W FUSIBLE	E
⚠	R041	QRZ0077-120	12 1/4W FUSIBLE	FBS
⚠	R041	QRZ0077-120	12 1/4W FUSIBLE	G
⚠	R042	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	A
⚠	R042	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	B
⚠	R042	QRZ0077-6R8	6.8 1/4W FUSIBLE	C
⚠	R042	QRZ0077-6R8	6.8 1/4W FUSIBLE	D
⚠	R042	QRZ0077-6R8	6.8 1/4W FUSIBLE	E
⚠	R042	QRZ0077-6R8	6.8 1/4W FUSIBLE	FBS
⚠	R042	QRZ0077-6R8	6.8 1/4W FUSIBLE	G
	R043	QRD167J-103	10K 1/6W CARBON	
	R045	QRD167J-102	1K 1/6W CARBON	C
	R046	QRD167J-102	1K 1/6W CARBON	C
	R047	QRD167J-102	1K 1/6W CARBON	C
⚠	R048	QRD14CJ-8R2S	8.2 1/4W UNF.CARBON	A
⚠	R048	QRD14CJ-8R2S	8.2 1/4W UNF.CARBON	B
⚠	R048	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	C
⚠	R048	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	D
⚠	R048	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	E
⚠	R048	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	FBS
⚠	R048	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	G
⚠	R049	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	C
⚠	R049	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	D

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R049	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	E
⚠	R049	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	FBS
⚠	R049	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	G
	R050	QRD167J-273	27K 1/6W CARBON	C
	R051	QRD167J-475	4.7M 1/6W CARBON	C
	R052	QRD167J-331	330 1/6W CARBON	C
	R053	QRD167J-302	3K 1/6W CARBON	C
	R055	QRD167J-153	15K 1/6W CARBON	C
	R056	QRD167J-434	430K 1/6W CARBON	C
	R057	QRD167J-103	10K 1/6W CARBON	C
	R058	QRD167J-103	10K 1/6W CARBON	C
	R059	QRD167J-272	2.7K 1/6W CARBON	C
	R060	QRD167J-153	15K 1/6W CARBON	C
	R061	QRD167J-153	15K 1/6W CARBON	C
	R062	QRD167J-752	7.5K 1/6W CARBON	C
	R063	QRD167J-752	7.5K 1/6W CARBON	C
	R064	QRD167J-753	75K 1/6W CARBON	C
	R065	QRD167J-753	75K 1/6W CARBON	C
	R066	QRD167J-105	1M 1/6W CARBON	C
	R067	QRD167J-203	20K 1/6W CARBON	C
	R071	QRD167J-222	2.2K 1/6W CARBON	

⚠ : SAFETY PARTS

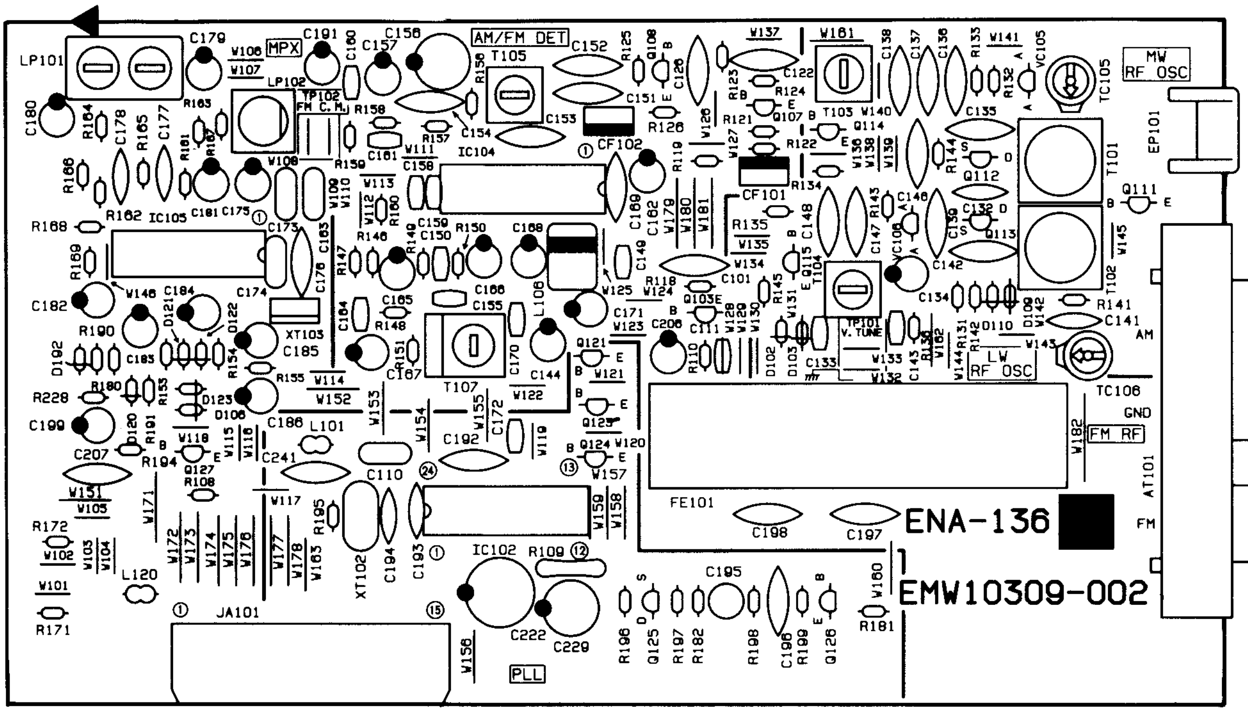
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E33754-001	TIE BAND	C
		E67132-T1R6	FUSE LABEL	C
		E33754-001	TIE BAND	D
		E33754-001	TIE BAND	E
		E33754-001	TIE BAND	FBS
		E33754-001	TIE BAND	G
	J702	EMV7122-004	CONNECTOR(4PIN) TO HEADPHONE PCB	
	K002	ENZZ8001-007	INDUCTOR	G
	K006	ENZ8001-007	INDUCTOR	G
	L002	EQL4004-1R0	INDUCTOR	
	L050	EQL3001-101K	INDUCTOR	C
	P701	EMV5142-905	PLUG ASSY(5PIN) TO MIC PCB	B
	P701	EMV5109-009A	PLUG ASSY(9PIN) TO MIC PCB	C
	P701	EMV5142-905	PLUG ASSY(5PIN) TO MIC PCB	D
	P701	EMV5142-905	PLUG ASSY(5PIN) TO MIC PCB	E
	P701	EMV5142-905	PLUG ASSY(5PIN) TO MIC PCB	FBS
	P701	EMV5142-905	PLUG ASSY(5PIN) TO MIC PCB	G
⚠	S001	QSR0085-018	VOLTAGE SELECTOR	C
	BC671	EWS296-0118	SOCKET WIRE(6PIN) TO VOLUME PCB	A
	BC671	EWS296-0118	SOCKET WIRE(6PIN) TO VOLUME PCB	B
	BC671	EWS299-0118	SOCKET WIRE(9PIN) TO VOLUME PCB	C
	BC671	EWS296-0118	SOCKET WIRE(6PIN) TO VOLUME PCB	D
	BC671	EWS296-0118	SOCKET WIRE(6PIN) TO VOLUME PCB	E
	BC671	EWS296-0118	SOCKET WIRE(6PIN) TO VOLUME PCB	FBS
	BC671	EWS296-0118	SOCKET WIRE(6PIN) TO VOLUME PCB	G
	EP001	E70859-001	EARTH PLATE	
	EP002	E70859-001	EARTH PLATE	
	FT001	VMZ0087-001	FUSE CLIP	
	FT002	VMZ0087-001	FUSE CLIP	
	FT003	VMZ0087-001	FUSE CLIP	C
	FT004	VMZ0087-001	FUSE CLIP	C
	FT101	VMZ0087-001	FUSE CLIP	
	FT102	VMZ0087-001	FUSE CLIP	
	FT103	VMZ0087-001	FUSE CLIP	
	FT104	VMZ0087-001	FUSE CLIP	
	FW001	EWR35B-16SST	FLAT WIRE(5PIN) POWER SUPPLY FOR AMP.	
	FW002	EWR35B-16SST	FLAT WIRE(5PIN) POWER SUPPLY FOR SYSTEM	
	JA001	EMV5140-015	PLUG ASSY(15PIN) TO SOURCE SELECTOR	
	JA002	EMV5125-010	PLUG ASSY(9PIN) TO SOURCE SYSTEM	
	JA003	EMV5125-010	PLUG ASSY(10PIN) REGULATOR	
	JA004	EMV5125-011	PLUG ASSY(11PIN) TO AMP.	
	JA005	EMV5125-004	PLUG ASSY(4PIN) TO SPEAKER TERMINAL	
	JA006	EMV7127-013	CONNECTOR(13PIN) TO CD SECTION	
	JA007	EMV7127-015	CONNECTOR(15PIN) TO DECK SECTION	
	JA010	EMV5140-015	PLUG ASSY(15PIN) TO TUNER	
	JA050	EMV5140-010	PLUG ASSY(10PIN)	C
	JA901	EMV7123-029	CONNECTOR(29PIN) TO FRONT PCB	
	JB050	EMV7140-L10R	CONNECTOR(10PIN)	C
	RY001	ESK7D24-2120	RELAY	
	TB001	EMZ4001-001	TAB	
	TB002	EMZ4001-001	TAB	
	XT050	ECX0004-194KM	RESONATOR	C

⚠ : SAFETY PARTS

■ENA-136☐ Tuner PC Board Ass'y

Note : ENA-136☐ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENA-136 A	the U.S.A., Canada
ENA-136 B	Taiwan, Universal Type
ENA-136 C	Australia
ENA-136 D	Scandinavia Continental Europe
ENA-136 E	Germany
ENA-136 F	the U.K.
ENA-136 G	Italy

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q103	2SC461(B,C)	SILICON	HITACHI	
	Q107	2SC535(B,C)	SILICON	HITACHI	
	Q108	2SC461(B,C)	SILICON	HITACHI	
	Q111	2SD2144S(VW)	SILICON	ROHM	D
	Q111	2SD2144S(VW)	SILICON	ROHM	E
	Q111	2SD2144S(VW)	SILICON	ROHM	F
	Q111	2SD2144S(VW)	SILICON	ROHM	G
	Q112	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	D
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	E
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	F
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	G
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	D
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	E
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	F
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	G
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	D
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	E
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	F
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	G
	Q121	DTA144ES	SILICON	ROHM	D
	Q121	DTA144ES	SILICON	ROHM	E
	Q121	DTA144ES	SILICON	ROHM	F
	Q121	DTA144ES	SILICON	ROHM	G
	Q123	DTA144ES	SILICON	ROHM	
	Q124	DTA144ES	SILICON	ROHM	
	Q125	2SK301(Q2)	F.E.T	MATSUSHITA	
	Q126	2SC458(D)	SILICON	HITACHI	
	Q127	DTC144ES	SILICON	ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	IC102	LC7218	I.C.	SANYO	
	IC104	LA1266A	I.C.	SANYO	
	IC105	LA3401	I.C.	SANYO	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D102	1SS119	SILICON	HITACHI	D
	D102	1SS119	SILICON	HITACHI	E
	D102	1SS119	SILICON	HITACHI	F
	D102	1SS119	SILICON	HITACHI	G
	D103	1SS119	SILICON	HITACHI	D
	D103	1SS119	SILICON	HITACHI	E
	D103	1SS119	SILICON	HITACHI	F
	D103	1SS119	SILICON	HITACHI	G
	D106	1SS119	SILICON	HITACHI	
	D109	1SS119	SILICON	HITACHI	D
	D109	1SS119	SILICON	HITACHI	E
	D109	1SS119	SILICON	HITACHI	F
	D109	1SS119	SILICON	HITACHI	G
	D110	1SS119	SILICON	HITACHI	D
	D110	1SS119	SILICON	HITACHI	E
	D110	1SS119	SILICON	HITACHI	F
	D110	1SS119	SILICON	HITACHI	G
	D120	1SS119	SILICON	HITACHI	
	D121	1SS119	SILICON	HITACHI	
	D122	1SS119	SILICON	HITACHI	
	D123	1SS119	SILICON	HITACHI	
	D192	MTZ5.1JC	ZENER	ROHM	
	VC105	SVC342(L)	VARICAP	SANYO	
	VC106	SVC342(L)	VARICAP	SANYO	D
	VC106	SVC342(L)	VARICAP	SANYO	E
	VC106	SVC342(L)	VARICAP	SANYO	F
	VC106	SVC342(L)	VARICAP	SANYO	G

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C101	QCF21HP-223	0.022MF 50V CERAMIC	
	C110	QCZ0202-155	1.5MF 25V CERAMIC	
	C122	QCF21HP-223	0.022MF 50V CERAMIC	
	C126	QCF21HP-223	0.022MF 50V CERAMIC	
	C132	QCS21HJ-561	560PF 50V CERAMIC	
	C133	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C134	QETB1EM-106	10MF 25V ELECTRO	
	C135	QCC21EM-223	0.022MF 25V CERAMIC	
	C136	QCT26CH-180	18PF 50V CERAMIC	
	C137	QCT26CH-221	220PF 50V CERAMIC	
	C138	QCT26CH-241	240PF 50V CERAMIC	
	C139	QCC21EM-223	0.022MF 25V CERAMIC	D
	C139	QCC21EM-223	0.022MF 25V CERAMIC	E
	C139	QCC21EM-223	0.022MF 25V CERAMIC	F
	C139	QCC21EM-223	0.022MF 25V CERAMIC	G
	C141	QCS21HJ-270	27PF 50V CERAMIC	D
	C141	QCS21HJ-270	27PF 50V CERAMIC	E
	C141	QCS21HJ-270	27PF 50V CERAMIC	F
	C141	QCS21HJ-270	27PF 50V CERAMIC	G
	C142	QCY21HK-272	2700PF 50V CERAMIC	D
	C142	QCY21HK-272	2700PF 50V CERAMIC	E
	C142	QCY21HK-272	2700PF 50V CERAMIC	F
	C142	QCY21HK-272	2700PF 50V CERAMIC	G
	C143	QCHB1EZ-223	0.022MF 25V CERAMIC	D
	C143	QCHB1EZ-223	0.022MF 25V CERAMIC	E
	C143	QCHB1EZ-223	0.022MF 25V CERAMIC	F
	C143	QCHB1EZ-223	0.022MF 25V CERAMIC	G
	C144	QETB1EM-106	10MF 25V ELECTRO	D
	C144	QETB1EM-106	10MF 25V ELECTRO	E
	C144	QETB1EM-106	10MF 25V ELECTRO	F
	C144	QETB1EM-106	10MF 25V ELECTRO	G
	C146	QCT26CH-680	68PF 50V CERAMIC	D
	C146	QCT26CH-680	68PF 50V CERAMIC	E
	C146	QCT26CH-680	68PF 50V CERAMIC	F
	C146	QCT26CH-680	68PF 50V CERAMIC	G
	C147	QCT26CH-220	22PF 50V CERAMIC	D
	C147	QCT26CH-220	22PF 50V CERAMIC	E
	C147	QCT26CH-220	22PF 50V CERAMIC	F
	C147	QCT26CH-220	22PF 50V CERAMIC	G
	C148	QCT26CH-121	120PF 50V CERAMIC	D
	C148	QCT26CH-121	120PF 50V CERAMIC	E
	C148	QCT26CH-121	120PF 50V CERAMIC	F
	C148	QCT26CH-121	120PF 50V CERAMIC	G
	C149	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C150	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C151	QCF21HP-223	0.022MF 50V CERAMIC	
	C152	QCF21HP-223	0.022MF 50V CERAMIC	
	C153	QCC21EM-223	0.022MF 25V CERAMIC	
	C154	QCF21HP-223	0.022MF 50V CERAMIC	
	C155	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C156	QETB1CM-227	220MF 16V ELECTRO	
	C157	QETB1HM-474	0.47MF 50V ELECTRO	
	C158	QCBB1HK-101	100PF 50V CERAMIC	
	C159	QCBB1HK-101	100PF 50V CERAMIC	
	C160	QCBB1HK-221	220PF 50V CERAMIC	
	C161	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C162	QETB1EM-106	10MF 25V ELECTRO	
	C163	QFLB1HJ-102	1000PF 50V MYLAR	
	C164	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C165	QETB1HM-474	0.47MF 50V ELECTRO	
	C166	QETB1HM-225	2.2MF 50V ELECTRO	
	C167	QETB1HM-225	2.2MF 50V ELECTRO	
	C168	QETB1HM-475	4.7MF 50V ELECTRO	
	C169	QCF21HP-223	0.022MF 50V CERAMIC	
	C170	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C171	QETB1EM-106	10MF 25V ELECTRO	
	C172	QCVB1CM-103	0.01MF 16V CERAMIC	
	C173	QFLB1HJ-393	0.039MF 50V MYLAR	A
	C173	QFLB1HJ-393	0.039MF 50V MYLAR	B
	C173	QFLB1HJ-223	0.022MF 50V MYLAR	C
	C173	QFLB1HJ-223	0.022MF 50V MYLAR	D
	C173	QFLB1HJ-223	0.022MF 50V MYLAR	E
	C173	QFLB1HJ-223	0.022MF 50V MYLAR	F
	C173	QFLB1HJ-223	0.022MF 50V MYLAR	G
	C174	QFLB1HJ-473	0.047MF 50V MYLAR	
	C175	QETB1EM-106	10MF 25V ELECTRO	
	C176	QCY21HK-102	1000PF 50V CERAMIC	
	C177	QCS21HJ-821	820PF 50V CERAMIC	A
	C177	QCS21HJ-821	820PF 50V CERAMIC	B
	C177	QCS21HJ-561	560PF 50V CERAMIC	C
	C177	QCS21HJ-561	560PF 50V CERAMIC	D
	C177	QCS21HJ-561	560PF 50V CERAMIC	E
	C177	QCS21HJ-821	820PF 50V CERAMIC	F
	C177	QCS21HJ-561	560PF 50V CERAMIC	G
	C178	QCS21HJ-821	820PF 50V CERAMIC	A
	C178	QCS21HJ-821	820PF 50V CERAMIC	B
	C178	QCS21HJ-561	560PF 50V CERAMIC	C
	C178	QCS21HJ-561	560PF 50V CERAMIC	D
	C178	QCS21HJ-561	560PF 50V CERAMIC	E
	C178	QCS21HJ-821	820PF 50V CERAMIC	F
	C178	QCS21HJ-561	560PF 50V CERAMIC	G
	C179	QETB1HM-225	2.2MF 50V ELECTRO	
	C180	QETB1HM-225	2.2MF 50V ELECTRO	
	C181	QETB1EM-106	10MF 25V ELECTRO	
	C182	QETB1HM-225	2.2MF 50V ELECTRO	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C183	QETB1HM-105	1MF 50V ELECTRO	
	C184	QETB1HM-105	1MF 50V ELECTRO	
	C185	QETB1HM-225	2.2MF 50V ELECTRO	
	C186	QETB1HM-474	0.47MF 50V ELECTRO	
	C191	QETB1HM-475	4.7MF 50V ELECTRO	
	C192	QCC21EM-473	0.047MF 25V CERAMIC	
	C193	QCS21HJ-180	18PF 50V CERAMIC	
	C194	QCS21HJ-180	18PF 50V CERAMIC	
	C195	QENB1HM-474	0.47MF 50V NON POLE	
	C196	QCY21HK-102	1000PF 50V CERAMIC	
	C197	QCF21HP-223	0.022MF 50V CERAMIC	
	C198	QCF21HP-103	0.01MF 50V CERAMIC	
	C199	QETB1HM-475	4.7MF 50V ELECTRO	
	C206	QETB1HM-476	47MF 50V ELECTRO	E
	C206	QETB1HM-476	47MF 50V ELECTRO	G
	C207	QCF21HP-223	0.022MF 50V CERAMIC	
	C222	QETB1CM-477	470MF 16V ELECTRO	
	C229	QETB1CM-227	220MF 16V ELECTRO	
	C241	QCF21HP-223	0.022MF 50V CERAMIC	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R108	QRD167J-103	10K 1/6W CARBON	
⚠	R109	QRD14CJ-680S	68 1/4W UNF.CARBON	A
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE	B
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE	C
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE	D
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE	E
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE	F
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE	G
	R118	QRD167J-332	3.3K 1/6W CARBON	
	R119	QRD161J-221	220 1/6W CARBON	
	R121	QRD167J-391	390 1/6W CARBON	
	R122	QRD167J-272	2.7K 1/6W CARBON	
	R123	QRD167J-102	1K 1/6W CARBON	
	R124	QRD167J-681	680 1/6W CARBON	
	R125	QRD167J-332	3.3K 1/6W CARBON	
	R126	QRD161J-221	220 1/6W CARBON	
	R131	QRD167J-331	330 1/6W CARBON	
	R132	QRD167J-103	10K 1/6W CARBON	
	R133	QRD167J-473	47K 1/6W CARBON	
	R134	QRD167J-103	10K 1/6W CARBON	D
	R134	QRD167J-103	10K 1/6W CARBON	E
	R134	QRD167J-103	10K 1/6W CARBON	F
	R134	QRD167J-103	10K 1/6W CARBON	G
	R135	QRD167J-470	47 1/6W CARBON	
	R136	QRD167J-103	10K 1/6W CARBON	
	R141	QRD167J-472	4.7K 1/6W CARBON	D
	R141	QRD167J-472	4.7K 1/6W CARBON	E
	R141	QRD167J-472	4.7K 1/6W CARBON	F
	R141	QRD167J-472	4.7K 1/6W CARBON	G
	R142	QRD167J-331	330 1/6W CARBON	D
	R142	QRD167J-331	330 1/6W CARBON	E
	R142	QRD167J-331	330 1/6W CARBON	F
	R142	QRD167J-331	330 1/6W CARBON	G
	R143	QRD167J-103	10K 1/6W CARBON	D
	R143	QRD167J-103	10K 1/6W CARBON	E
	R143	QRD167J-103	10K 1/6W CARBON	F
	R143	QRD167J-103	10K 1/6W CARBON	G
	R144	QRD167J-473	47K 1/6W CARBON	D
	R144	QRD167J-473	47K 1/6W CARBON	E
	R144	QRD167J-473	47K 1/6W CARBON	F
	R144	QRD167J-473	47K 1/6W CARBON	G
	R145	QRD167J-103	10K 1/6W CARBON	D
	R145	QRD167J-103	10K 1/6W CARBON	E
	R145	QRD167J-103	10K 1/6W CARBON	F
	R145	QRD167J-103	10K 1/6W CARBON	G
	R146	QRD167J-560	56 1/6W CARBON	
	R147	QRD167J-103	10K 1/6W CARBON	
	R148	QRD167J-103	10K 1/6W CARBON	
	R149	QRD167J-223	22K 1/6W CARBON	A
	R149	QRD167J-223	22K 1/6W CARBON	B
	R149	QRD167J-223	22K 1/6W CARBON	C
	R149	QRD167J-223	22K 1/6W CARBON	D
	R149	QRD167J-273	27K 1/6W CARBON	E
	R149	QRD167J-223	22K 1/6W CARBON	F
	R149	QRD167J-273	27K 1/6W CARBON	G
	R150	QRD167J-103	10K 1/6W CARBON	
	R151	QRD167J-222	2.2K 1/6W CARBON	
	R153	QRD167J-103	10K 1/6W CARBON	
	R154	QRD167J-103	10K 1/6W CARBON	
	R155	QRD167J-562	5.6K 1/6W CARBON	
	R156	QRD167J-822	8.2K 1/6W CARBON	
	R157	QRD167J-103	10K 1/6W CARBON	
	R158	QRD167J-183	18K 1/6W CARBON	A
	R158	QRD167J-273	27K 1/6W CARBON	B
	R158	QRD167J-273	27K 1/6W CARBON	C
	R158	QRD167J-273	27K 1/6W CARBON	D
	R158	QRD167J-273	27K 1/6W CARBON	E
	R158	QRD167J-273	27K 1/6W CARBON	F
	R158	QRD167J-273	27K 1/6W CARBON	G
	R159	QRD167J-561	560 1/6W CARBON	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R160	QRD167J-562	5.6K 1/6W CARBON	A
	R160	QRD167J-562	5.6K 1/6W CARBON	B
	R160	QRD167J-103	10K 1/6W CARBON	C
	R160	QRD167J-103	10K 1/6W CARBON	D
	R160	QRD167J-103	10K 1/6W CARBON	E
	R160	QRD167J-102	1K 1/6W CARBON	F
	R160	QRD167J-103	10K 1/6W CARBON	G
	R161	QRD167J-823	82K 1/6W CARBON	A
	R161	QRD167J-823	82K 1/6W CARBON	B
	R161	QRD167J-104	100K 1/6W CARBON	C
	R161	QRD167J-104	100K 1/6W CARBON	D
	R161	QRD167J-104	100K 1/6W CARBON	E
	R161	QRD167J-683	68K 1/6W CARBON	F
	R161	QRD167J-104	100K 1/6W CARBON	G
	R162	QRD167J-823	82K 1/6W CARBON	A
	R162	QRD167J-823	82K 1/6W CARBON	B
	R162	QRD167J-104	100K 1/6W CARBON	C
	R162	QRD167J-104	100K 1/6W CARBON	D
	R162	QRD167J-104	100K 1/6W CARBON	E
	R162	QRD167J-683	68K 1/6W CARBON	F
	R162	QRD167J-104	100K 1/6W CARBON	G
	R163	QRD167J-472	4.7K 1/6W CARBON	A
	R163	QRD167J-472	4.7K 1/6W CARBON	B
	R163	QRD167J-332	3.3K 1/6W CARBON	C
	R163	QRD167J-332	3.3K 1/6W CARBON	D
	R163	QRD167J-332	3.3K 1/6W CARBON	E
	R163	QRD167J-332	3.3K 1/6W CARBON	F
	R163	QRD167J-332	3.3K 1/6W CARBON	G
	R164	QRD167J-472	4.7K 1/6W CARBON	A
	R164	QRD167J-472	4.7K 1/6W CARBON	B
	R164	QRD167J-332	3.3K 1/6W CARBON	C
	R164	QRD167J-332	3.3K 1/6W CARBON	D
	R164	QRD167J-332	3.3K 1/6W CARBON	E
	R164	QRD167J-332	3.3K 1/6W CARBON	F
	R164	QRD167J-332	3.3K 1/6W CARBON	G
	R165	QRD167J-184	180K 1/6W CARBON	A
	R165	QRD167J-184	180K 1/6W CARBON	B
	R165	QRD167J-274	270K 1/6W CARBON	C
	R165	QRD167J-274	270K 1/6W CARBON	D
	R165	QRD167J-274	270K 1/6W CARBON	E
	R165	QRD167J-274	270K 1/6W CARBON	F
	R165	QRD167J-274	270K 1/6W CARBON	G
	R166	QRD167J-184	180K 1/6W CARBON	A
	R166	QRD167J-184	180K 1/6W CARBON	B
	R166	QRD167J-274	270K 1/6W CARBON	C
	R166	QRD167J-274	270K 1/6W CARBON	D
	R166	QRD167J-274	270K 1/6W CARBON	E
	R166	QRD167J-274	270K 1/6W CARBON	F
	R166	QRD167J-274	270K 1/6W CARBON	G
	R167	QRD167J-393	39K 1/6W CARBON	A
	R167	QRD167J-393	39K 1/6W CARBON	B
	R167	QRD167J-473	47K 1/6W CARBON	C
	R167	QRD167J-473	47K 1/6W CARBON	D
	R167	QRD167J-473	47K 1/6W CARBON	E
	R167	QRD167J-473	47K 1/6W CARBON	F
	R167	QRD167J-473	47K 1/6W CARBON	G
	R168	QRD167J-103	10K 1/6W CARBON	
	R169	QRD167J-103	10K 1/6W CARBON	
	R171	QRD167J-682	6.8K 1/6W CARBON	
	R172	QRD167J-682	6.8K 1/6W CARBON	
	R180	QRD167J-103	10K 1/6W CARBON	
	R181	QRD167J-222	2.2K 1/6W CARBON	
	R182	QRD167J-181	180 1/6W CARBON	
	R190	QRD167J-103	10K 1/6W CARBON	
	R191	QRD167J-562	5.6K 1/6W CARBON	
	R194	QRD167J-103	10K 1/6W CARBON	
	R195	QRD167J-473	47K 1/6W CARBON	
	R196	QRD167J-103	10K 1/6W CARBON	A
	R196	QRD167J-103	10K 1/6W CARBON	B
	R196	QRD167J-103	10K 1/6W CARBON	C
	R196	QRD167J-222	2.2K 1/6W CARBON	D
	R196	QRD167J-222	2.2K 1/6W CARBON	E
	R196	QRD167J-222	2.2K 1/6W CARBON	F
	R196	QRD167J-222	2.2K 1/6W CARBON	G
	R197	QRD167J-222	2.2K 1/6W CARBON	
	R198	QRD167J-332	3.3K 1/6W CARBON	A
	R198	QRD167J-332	3.3K 1/6W CARBON	B
	R198	QRD167J-332	3.3K 1/6W CARBON	C
	R198	QRD167J-822	8.2K 1/6W CARBON	D
	R198	QRD167J-822	8.2K 1/6W CARBON	E
	R198	QRD167J-822	8.2K 1/6W CARBON	F
	R198	QRD167J-822	8.2K 1/6W CARBON	G
	R199	QRD167J-472	4.7K 1/6W CARBON	
	R228	QRD167J-222	2.2K 1/6W CARBON	

⚠ : SAFETY PARTS

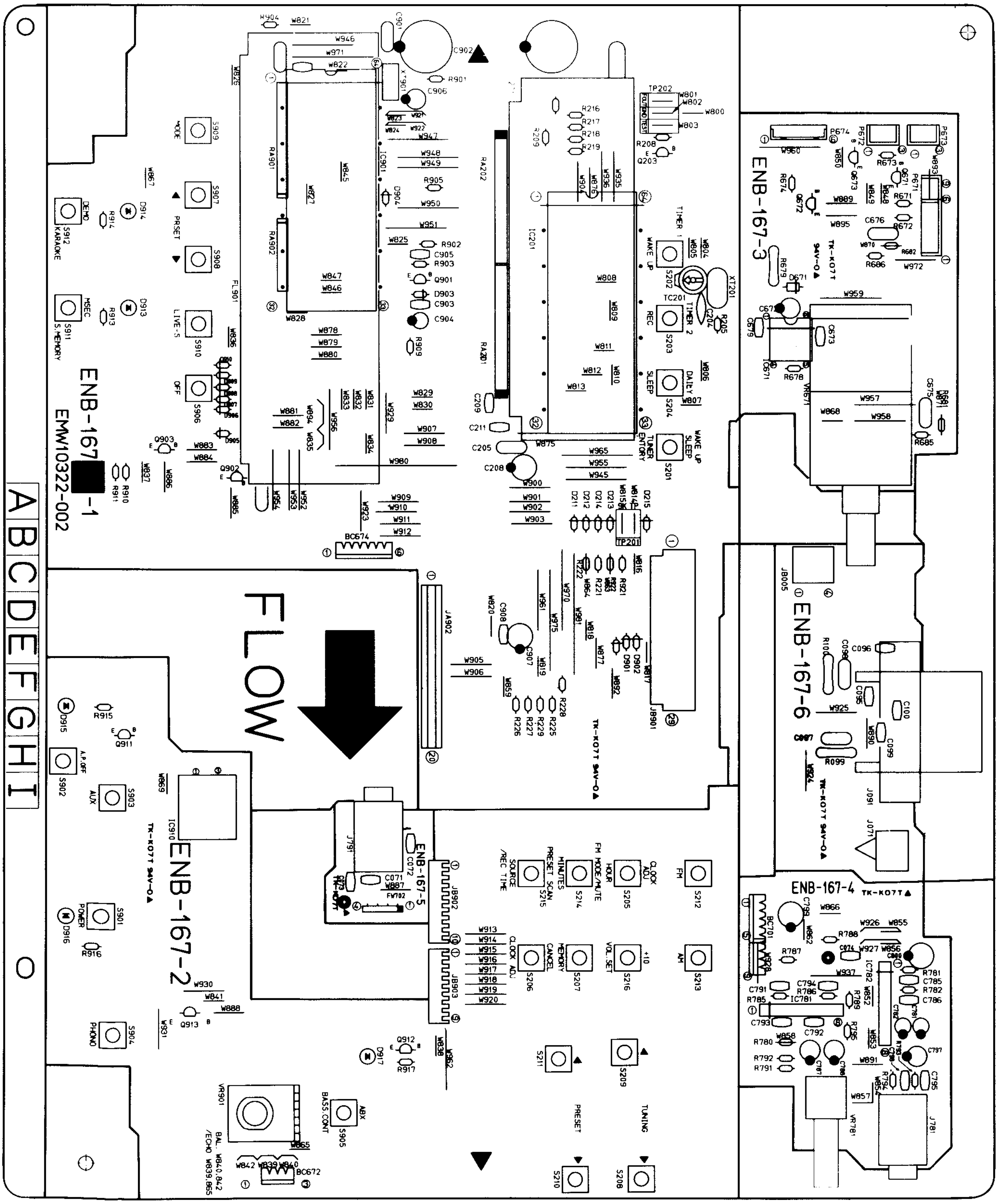
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	L101	EQL4004-1R0	INDUCTOR	
	L106	EQL3001-102K	INDUCTOR	
	L110	EQL4004-100	INDUCTOR	E
	L110	EQL4004-100	INDUCTOR	G
	L120	EQL4004-1R0	INDUCTOR	
	T101	EQR1111-014	AM RF COIL	
	T102	EQR1111-005	AM RF COIL	D
	T102	EQR1111-005	AM RF COIL	E
	T102	EQR1111-005	AM RF COIL	F
	T102	EQR1111-005	AM RF COIL	G
	T103	EQR1207-017	MW OSC COIL	
	T104	EQR1307-010	LW OSC COIL	D
	T104	EQR1307-010	LW OSC COIL	E
	T104	EQR1307-010	LW OSC COIL	F
	T104	EQR1307-010	LW OSC COIL	G
	T105	EQT2140-017	I.F. TRANSFORMER	
	T107	ECB1560-010	CERAMIC FILTER	
	AT101	EMB01YV-305K	ANTENNA TERMINAL	
	CF101	ECB2123-006R	CERAMIC FILTER	A
	CF101	ECB2123-006R	CERAMIC FILTER	B
	CF101	ECB2123-006R	CERAMIC FILTER	C
	CF101	ECB2118-007R	CERAMIC FILTER	D
	CF101	ECB2118-007R	CERAMIC FILTER	E
	CF101	ECB2118-007R	CERAMIC FILTER	F
	CF101	ECB2118-007R	CERAMIC FILTER	G
	CF102	ECB2123-006R	CERAMIC FILTER	A
	CF102	ECB2123-006R	CERAMIC FILTER	B
	CF102	ECB2123-006R	CERAMIC FILTER	C
	CF102	ECB2118-007R	CERAMIC FILTER	D
	CF102	ECB2118-007R	CERAMIC FILTER	E
	CF102	ECB2118-007R	CERAMIC FILTER	F
	CF102	ECB2118-007R	CERAMIC FILTER	G
	EP101	E70225-001	EARTH PLATE	
	FE101	EAF2203-001	FRONT END	A
	FE101	EAF2203-001	FRONT END	B
	FE101	EAF2203-001	FRONT END	C
	FE101	EAF2203-001	FRONT END	D
	FE101	EAF2203-003	FRONT END	E
	FE101	EAF2203-001	FRONT END	F
	FE101	EAF2203-003	FRONT END	G
	JA101	EMV7140-L15R	CONNECTOR(15PIN) TO MAIN PCB	
	LP101	EQF0101-002	LOW PASS FILTER	
	LP102	EQF0102-001	LOW PASS FILTER	E
	LP102	EQF0102-001	LOW PASS FILTER	G
	TC105	ENZ1003-006	TRIMMER	
	TC106	ENZ1003-006	TRIMMER	D
	TC106	ENZ1003-006	TRIMMER	E
	TC106	ENZ1003-006	TRIMMER	F
	TC106	ENZ1003-006	TRIMMER	G
	XT102	ECX0007-200KCTJ	RESONATOR	
	XT103	ECX0000-456KR	RESONATOR	

⚠ : SAFETY PARTS

■ENB-167☐ Display, Mic AMP. & Volume PC Board Ass'y

Note : ENB-167☐ varies according to the areas employed. See note (1) when placing an order.


ENB-167■-1
EMW10322-002
ENB-167-2
ENB-167-3
ENB-167-4
ENB-167-5
ENB-167-6
FLOW
A
B
C
D
E
F
G
H
I
FL901
IC901
IC201
IC910
IC781
IC782
JA902
JB901
JB902
JB903
JB005
J791
J091
J071
J781
VR901
VR781
VR671
XT201
TC201
TP201
TP202
BC674
BC672
BC701
MODE
PRESET
LIVE-S
OFF
DEMO
KARAOKE
MSEC
S.MEMORY
A.P.OFF
AUX
POWER
PHONO
ABX
BASS CONT
BAL /ECHO
TIMER 1
WAKE UP
TIMER 2
REC
DAILY
SLEEP
TUNER ENTORY
WAKE UP SLEEP
CLOCK ADJ.
FM MODE/MUTE
HOUR
MINUTES
PRESET SCAN
SOURCE /REC TIME
FM
AM
+10
VOL.SET
MEMORY
CANCEL
TUNING
TK-KO7T 94V-0▲

Note (1)

PC Board Ass'y	Designated Areas
ENB-167 A	the U.S.A.
ENB-167 B	Canada
ENB-167 C	Taiwan , Universal Type
ENB-167 D	Scandinavia Continental Europe
ENB-167 E	Australia
ENB-167 F	the U.K.
ENB-167 G	Germany
ENB-167 H	Italy

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q203	DTA114YS	SILICON ROHM	
	Q671	2SD2144S(VW)	SILICON ROHM	
	Q672	2SD2144S(VW)	SILICON ROHM	
	Q673	DTA144ES	SILICON ROHM	
	Q901	DTC114YS	SILICON ROHM	
	Q902	DTC144ES	SILICON ROHM	
	Q903	DTC114YS	SILICON ROHM	
	Q911	DTC114YS	SILICON ROHM	
	Q912	DTC114YS	SILICON ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC201	HD614089SD51	I.C. HITACHI	
	IC671	LB1639-CV	I.C. SANYO	
	IC781	XRA15218N	I.C. EXAR JAPAN	B
	IC781	XRA15218N	I.C. EXAR JAPAN	C
	IC781	XRA15218N	I.C. EXAR JAPAN	D
	IC781	XRA15218N	I.C. EXAR JAPAN	E
	IC781	XRA15218N	I.C. EXAR JAPAN	F
	IC781	XRA15218N	I.C. EXAR JAPAN	G
	IC781	XRA15218N	I.C. EXAR JAPAN	H
	IC782	XRA15218N	I.C. EXAR JAPAN	C
	IC901	MN171202JHF	I.C. MATSUSHITA	
	IC910	SPS-420-1	I.C. SANYO	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D211	1SS119	SILICON HITACHI	C
	D212	1SS119	SILICON HITACHI	A
	D212	1SS119	SILICON HITACHI	B
	D213	1SS119	SILICON HITACHI	C
	D213	1SS119	SILICON HITACHI	E
	D214	1SS119	SILICON HITACHI	A
	D214	1SS119	SILICON HITACHI	B
	D214	1SS119	SILICON HITACHI	H
	D215	1SS119	SILICON HITACHI	A
	D215	1SS119	SILICON HITACHI	B
	D671	1SR139-200	SILICON ROHM	
	D901	1SS119	SILICON HITACHI	
	D902	1SS119	SILICON HITACHI	
	D903	1SS119	SILICON HITACHI	
	D904	1SS119	SILICON HITACHI	
	D905	1SS119	SILICON HITACHI	
	D906	1SS119	SILICON HITACHI	
	D907	1SS119	SILICON HITACHI	
	D908	1SS119	SILICON HITACHI	
	D909	1SS119	SILICON HITACHI	
	D910	1SS119	SILICON HITACHI	
	D913	SLR-342VC3F	L.E.D. ROHM	
	D914	SLR-342VC3F	L.E.D. ROHM	
	D915	SLR-342VC3F	L.E.D. ROHM	
	D916	SLR-342VC3F	L.E.D. ROHM	A
	D916	SLR-342VC3F	L.E.D. ROHM	B
	D916	SLR-342VC3F	L.E.D. ROHM	C
	D916	SLR-342VC3F	L.E.D. ROHM	D
	D916	SLR-342VC3F	L.E.D. ROHM	E
	D916	SLA-580LT3F	L.E.D. ROHM	F
	D916	SLR-342VC3F	L.E.D. ROHM	G
	D916	SLR-342VC3F	L.E.D. ROHM	H
	D917	SLR-342VC3F	L.E.D. ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C071	QCGB1HK-102	1000PF 50V CERAMIC	
	C072	QCGB1HK-102	1000PF 50V CERAMIC	
	C074	QCVB1CM-103	0.01MF 16V CERAMIC	B
	C074	QCVB1CM-103	0.01MF 16V CERAMIC	C
	C074	QCVB1CM-103	0.01MF 16V CERAMIC	D
	C074	QCVB1CM-103	0.01MF 16V CERAMIC	E
	C074	QCVB1CM-103	0.01MF 16V CERAMIC	F
	C074	QCVB1CM-103	0.01MF 16V CERAMIC	G
	C074	QCVB1CM-103	0.01MF 16V CERAMIC	H
	C095	QCHB1EZ-223	0.022MF 25V CERAMIC	G
	C095	QCHB1EZ-223	0.022MF 25V CERAMIC	H
	C096	QCHB1EZ-223	0.022MF 25V CERAMIC	G
	C096	QCHB1EZ-223	0.022MF 25V CERAMIC	H
	C097	QFLB1HJ-103	0.01MF 50V MYLAR	G
	C097	QFLB1HJ-103	0.01MF 50V MYLAR	H
	C098	QFLB1HJ-103	0.01MF 50V MYLAR	G
	C098	QFLB1HJ-103	0.01MF 50V MYLAR	H
	C099	QCBB1HK-331	330PF 50V CERAMIC	G
	C099	QCBB1HK-331	330PF 50V CERAMIC	H
	C100	QCBB1HK-331	330PF 50V CERAMIC	G
	C100	QCBB1HK-331	330PF 50V CERAMIC	H
	C203	QETB1HM-474	0.47MF 50V ELECTRO	
	C204	QCT26CH-120	12PF 50V CERAMIC	
	C205	QCZ0202-155	1.5MF 25V CERAMIC	
	C207	QCZ0202-155	1.5MF 25V CERAMIC	
	C208	QETB1AM-227	220MF 10V ELECTRO	
	C209	QCVB1CM-103	0.01MF 16V CERAMIC	
	C211	QCVB1CM-103	0.01MF 16V CERAMIC	
	C672	QETB1AM-476	47MF 10V ELECTRO	
	C673	QCVB1CM-103	0.01MF 16V CERAMIC	
	C675	QETB1HM-474	0.47MF 50V ELECTRO	
	C676	QETB1HM-474	0.47MF 50V ELECTRO	
	C679	QCGB1HK-102	1000PF 50V CERAMIC	
	C781	QEK51HM-105G	1MF 50V ELECTRO	C
	C782	QEK51HM-105G	1MF 50V ELECTRO	C
	C785	QCVB1CM-103	0.01MF 16V CERAMIC	C
	C786	QCVB1CM-103	0.01MF 16V CERAMIC	C
	C787	QEK51EM-106	10MF 25V ELECTRO	B
	C787	QEK51EM-106	10MF 25V ELECTRO	C
	C787	QEK51EM-106	10MF 25V ELECTRO	D
	C787	QEK51EM-106	10MF 25V ELECTRO	E
	C787	QEK51EM-106	10MF 25V ELECTRO	F
	C787	QEK51EM-106	10MF 25V ELECTRO	G
	C787	QEK51EM-106	10MF 25V ELECTRO	H
	C788	QEK51EM-106	10MF 25V ELECTRO	B
	C788	QEK51EM-106	10MF 25V ELECTRO	C
	C788	QEK51EM-106	10MF 25V ELECTRO	D
	C788	QEK51EM-106	10MF 25V ELECTRO	E
	C788	QEK51EM-106	10MF 25V ELECTRO	F
	C788	QEK51EM-106	10MF 25V ELECTRO	G
	C788	QEK51EM-106	10MF 25V ELECTRO	H
	C791	QCBB1HK-101	100PF 50V CERAMIC	B
	C791	QCBB1HK-101	100PF 50V CERAMIC	C
	C791	QCBB1HK-101	100PF 50V CERAMIC	D
	C791	QCBB1HK-101	100PF 50V CERAMIC	E
	C791	QCBB1HK-101	100PF 50V CERAMIC	F
	C791	QCBB1HK-101	100PF 50V CERAMIC	G
	C791	QCBB1HK-101	100PF 50V CERAMIC	H
	C792	QCBB1HK-101	100PF 50V CERAMIC	B
	C792	QCBB1HK-101	100PF 50V CERAMIC	C
	C792	QCBB1HK-101	100PF 50V CERAMIC	D
	C792	QCBB1HK-101	100PF 50V CERAMIC	E
	C792	QCBB1HK-101	100PF 50V CERAMIC	F
	C792	QCBB1HK-101	100PF 50V CERAMIC	G
	C792	QCBB1HK-101	100PF 50V CERAMIC	H
	C793	QCBB1HK-101	100PF 50V CERAMIC	B
	C793	QCBB1HK-101	100PF 50V CERAMIC	C
	C793	QCBB1HK-101	100PF 50V CERAMIC	D
	C793	QCBB1HK-101	100PF 50V CERAMIC	E
	C793	QCBB1HK-101	100PF 50V CERAMIC	F
	C793	QCBB1HK-101	100PF 50V CERAMIC	G
	C793	QCBB1HK-101	100PF 50V CERAMIC	H
	C794	QCBB1HK-101	100PF 50V CERAMIC	B
	C794	QCBB1HK-101	100PF 50V CERAMIC	C
	C794	QCBB1HK-101	100PF 50V CERAMIC	D
	C794	QCBB1HK-101	100PF 50V CERAMIC	E
	C794	QCBB1HK-101	100PF 50V CERAMIC	F
	C794	QCBB1HK-101	100PF 50V CERAMIC	G
	C794	QCBB1HK-101	100PF 50V CERAMIC	H
	C795	QCGB1HK-102	1000PF 50V CERAMIC	B
	C795	QCGB1HK-102	1000PF 50V CERAMIC	C
	C795	QCGB1HK-102	1000PF 50V CERAMIC	D
	C795	QCGB1HK-102	1000PF 50V CERAMIC	E
	C795	QCGB1HK-102	1000PF 50V CERAMIC	F
	C795	QCGB1HK-102	1000PF 50V CERAMIC	G
	C795	QCGB1HK-102	1000PF 50V CERAMIC	H
	C797	QEK51EM-106	10MF 25V ELECTRO	B
	C797	QEK51EM-106	10MF 25V ELECTRO	C
	C797	QEK51EM-106	10MF 25V ELECTRO	D
	C797	QEK51EM-106	10MF 25V ELECTRO	E
	C797	QEK51EM-106	10MF 25V ELECTRO	F
	C797	QEK51EM-106	10MF 25V ELECTRO	G
	C797	QEK51EM-106	10MF 25V ELECTRO	H
	C798	QCGB1HK-102	1000PF 50V CERAMIC	B
	C798	QCGB1HK-102	1000PF 50V CERAMIC	C
	C798	QCGB1HK-102	1000PF 50V CERAMIC	D
	C798	QCGB1HK-102	1000PF 50V CERAMIC	E

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C798	QCGB1HK-102	1000PF 50V CERAMIC	F
	C798	QCGB1HK-102	1000PF 50V CERAMIC	G
	C798	QCGB1HK-102	1000PF 50V CERAMIC	H
	C799	QER51CM-476	47MF 16V ELECTRO	B
	C799	QER51CM-476	47MF 16V ELECTRO	C
	C799	QER51CM-476	47MF 16V ELECTRO	D
	C799	QER51CM-476	47MF 16V ELECTRO	E
	C799	QER51CM-476	47MF 16V ELECTRO	F
	C799	QER51CM-476	47MF 16V ELECTRO	G
	C799	QER51CM-476	47MF 16V ELECTRO	H
	C800	QER51CM-476	47MF 16V ELECTRO	B
	C800	QER51CM-476	47MF 16V ELECTRO	C
	C800	QER51CM-476	47MF 16V ELECTRO	D
	C800	QER51CM-476	47MF 16V ELECTRO	E
	C800	QER51CM-476	47MF 16V ELECTRO	F
	C800	QER51CM-476	47MF 16V ELECTRO	G
	C800	QER51CM-476	47MF 16V ELECTRO	H
	C901	QCZ0205-155	1.5MF 25V CERAMIC	
	C902	QEA40HZ-10AB	ELECTRO	
	C903	QCVB1CM-103	0.01MF 16V CERAMIC	
	C904	QEK51HM-225G	2.2MF 50V ELECTRO	
	C905	QCVB1CM-103	0.01MF 16V CERAMIC	
	C906	QEK50JM-476	47MF 6.3V ELECTRO	
	C907	QER50JM-107	100MF 6.3V ELECTRO	
	C908	QCHB1EZ-223	0.022MF 25V CERAMIC	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R099	QRD14CJ-100S	10 1/4W UNF.CARBON	G
⚠	R099	QRD14CJ-100S	10 1/4W UNF.CARBON	H
⚠	R100	QRD14CJ-100S	10 1/4W UNF.CARBON	G
⚠	R100	QRD14CJ-100S	10 1/4W UNF.CARBON	H
	R205	QRD167J-473	47K 1/6W CARBON	
	R208	QRD167J-473	47K 1/6W CARBON	
	R209	QRD167J-104	100K 1/6W CARBON	
	R228	QRD167J-473	47K 1/6W CARBON	
	R671	QRD167J-332	3.3K 1/6W CARBON	
	R672	QRD167J-332	3.3K 1/6W CARBON	
	R673	QRD167J-103	10K 1/6W CARBON	
	R674	QRD167J-103	10K 1/6W CARBON	
	R678	QRD161J-221	220 1/6W CARBON	
⚠	R679	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
	R681	QRD167J-272	2.7K 1/6W CARBON	
	R682	QRD167J-272	2.7K 1/6W CARBON	
	R685	QRD167J-123	12K 1/6W CARBON	
	R686	QRD167J-123	12K 1/6W CARBON	
	R780	QRD167J-471	470 1/6W CARBON	B
	R780	QRD167J-471	470 1/6W CARBON	C
	R780	QRD167J-471	470 1/6W CARBON	D
	R780	QRD167J-471	470 1/6W CARBON	E
	R780	QRD167J-471	470 1/6W CARBON	F
	R780	QRD167J-471	470 1/6W CARBON	G
	R780	QRD167J-471	470 1/6W CARBON	H
	R781	QRD167J-104	100K 1/6W CARBON	C
	R782	QRD167J-104	100K 1/6W CARBON	C
	R785	QRD167J-104	100K 1/6W CARBON	B
	R785	QRD167J-104	100K 1/6W CARBON	C
	R785	QRD167J-104	100K 1/6W CARBON	D
	R785	QRD167J-104	100K 1/6W CARBON	E
	R785	QRD167J-104	100K 1/6W CARBON	F
	R785	QRD167J-104	100K 1/6W CARBON	G
	R785	QRD167J-104	100K 1/6W CARBON	H
	R786	QRD167J-104	100K 1/6W CARBON	B
	R786	QRD167J-104	100K 1/6W CARBON	C
	R786	QRD167J-104	100K 1/6W CARBON	D
	R786	QRD167J-104	100K 1/6W CARBON	E
	R786	QRD167J-104	100K 1/6W CARBON	F
	R786	QRD167J-104	100K 1/6W CARBON	G
	R786	QRD167J-104	100K 1/6W CARBON	H
	R787	QRD167J-202	2K 1/6W CARBON	B
	R787	QRD167J-202	2K 1/6W CARBON	C
	R787	QRD167J-202	2K 1/6W CARBON	D
	R787	QRD167J-202	2K 1/6W CARBON	E
	R787	QRD167J-202	2K 1/6W CARBON	F
	R787	QRD167J-202	2K 1/6W CARBON	G
	R787	QRD167J-202	2K 1/6W CARBON	H
	R788	QRD167J-913	91K 1/6W CARBON	B
	R788	QRD167J -623	62K 1/6W CARBON	C

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R788	QRD167J-913	91K 1/6W CARBON	D
	R788	QRD167J-913	91K 1/6W CARBON	E
	R788	QRD167J-913	91K 1/6W CARBON	F
	R788	QRD167J-913	91K 1/6W CARBON	G
	R788	QRD167J-913	91K 1/6W CARBON	H
	R789	QRD167J-473	47K 1/6W CARBON	B
	R789	QRD167J-473	47K 1/6W CARBON	C
	R789	QRD167J-473	47K 1/6W CARBON	D
	R789	QRD167J-473	47K 1/6W CARBON	E
	R789	QRD167J-473	47K 1/6W CARBON	F
	R789	QRD167J-473	47K 1/6W CARBON	G
	R789	QRD167J-473	47K 1/6W CARBON	H
	R791	QRD167J-472	4.7K 1/6W CARBON	C
	R792	QRD167J-472	4.7K 1/6W CARBON	C
	R793	QRD167J-102	1K 1/6W CARBON	B
	R793	QRD167J-102	1K 1/6W CARBON	C
	R793	QRD167J-102	1K 1/6W CARBON	D
	R793	QRD167J-102	1K 1/6W CARBON	E
	R793	QRD167J-102	1K 1/6W CARBON	F
	R793	QRD167J-102	1K 1/6W CARBON	G
	R793	QRD167J-102	1K 1/6W CARBON	H
	R794	QRD167J-103	10K 1/6W CARBON	B
	R794	QRD167J-103	10K 1/6W CARBON	C
	R794	QRD167J-103	10K 1/6W CARBON	D
	R794	QRD167J-103	10K 1/6W CARBON	E
	R794	QRD167J-103	10K 1/6W CARBON	F
	R794	QRD167J-103	10K 1/6W CARBON	G
	R794	QRD167J-103	10K 1/6W CARBON	H
	R795	QRD167J-331	330 1/6W CARBON	B
	R795	QRD167J-331	330 1/6W CARBON	C
	R795	QRD167J-331	330 1/6W CARBON	D
	R795	QRD167J-331	330 1/6W CARBON	E
	R795	QRD167J-331	330 1/6W CARBON	F
	R795	QRD167J-331	330 1/6W CARBON	G
	R795	QRD167J-331	330 1/6W CARBON	H
	R901	QRD167J-470	47 1/6W CARBON	
	R902	QRD167J-103	10K 1/6W CARBON	
	R903	QRD167J-104	100K 1/6W CARBON	
	R904	QRD167J-104	100K 1/6W CARBON	
	R905	QRD167J-473	47K 1/6W CARBON	
	R909	QRD167J-473	47K 1/6W CARBON	
	R910	QRD167J-473	47K 1/6W CARBON	
	R911	QRD167J-473	47K 1/6W CARBON	
	R913	QRD167J-241	240 1/6W CARBON	
	R914	QRD167J-241	240 1/6W CARBON	
	R915	QRD167J-241	240 1/6W CARBON	
	R916	QRD167J-241	240 1/6W CARBON	
	R917	QRD167J-241	240 1/6W CARBON	
	VR671	QVDB94B-E15C	100K VARIABLE	
	VR781	QVAB80B-E54D	50K VARIABLE	B
	VR781	QVAB80B-E54D	50K VARIABLE	C
	VR781	QVAB80B-E54D	50K VARIABLE	D
	VR781	QVAB80B-E54D	50K VARIABLE	E
	VR781	QVAB80B-E54D	50K VARIABLE	F
	VR781	QVAB80B-E54D	50K VARIABLE	G
	VR781	QVAB80B-E54D	50K VARIABLE	H
	VR901	QVJB84W-E15C	100K VARIABLE	A
	VR901	QVJB84W-E15C	100K VARIABLE	B
	VR901	QVJB84B-E54D	50K VARIABLE	C
	VR901	QVJB84W-E15C	100K VARIABLE	D
	VR901	QVJB84W-E15C	100K VARIABLE	E
	VR901	QVJB84W-E15C	100K VARIABLE	F
	VR901	QVJB84W-E15C	100K VARIABLE	G
	VR901	QVJB84W-E15C	100K VARIABLE	H

⚠ : SAFETY PARTS

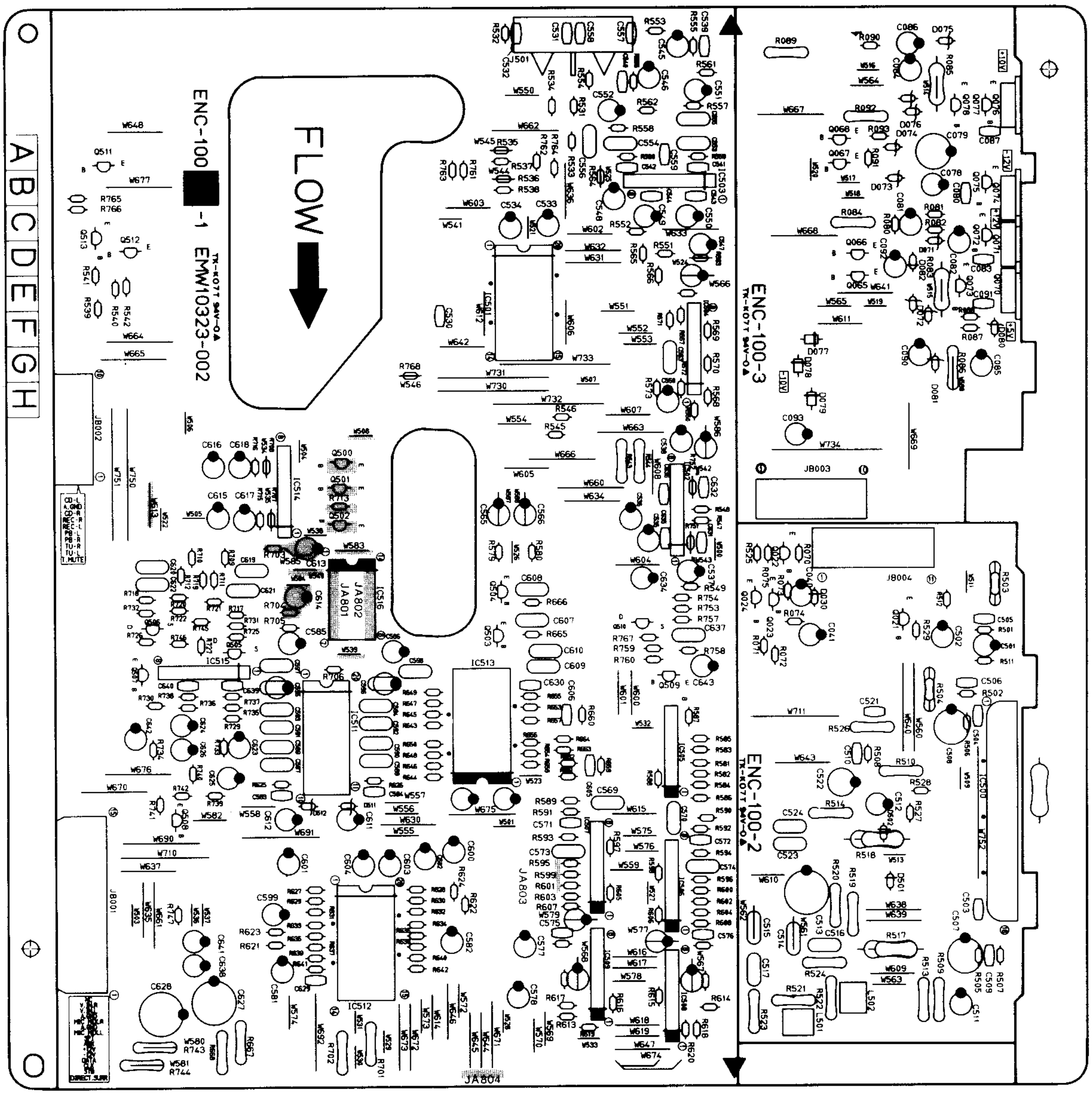
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E3400-431	FELT SPACER	
		QWE370-04BB	WIRE	
		EWT011-158	TERMINAL WIRE	B
		EWT011-158	TERMINAL WIRE	C
		EWT011-158	TERMINAL WIRE	D
		EWT011-158	TERMINAL WIRE	E
		EWT011-158	TERMINAL WIRE	F
		EWT011-158	TERMINAL WIRE	G
		EWT011-158	TERMINAL WIRE	H
	J091	EMB90TV-404A	SPEAKER TERMINAL	A
	J091	EMB90TV-404A	SPEAKER TERMINAL	B
	J091	EMB90TV-404A	SPEAKER TERMINAL	C
	J091	EMB90TV-404A	SPEAKER TERMINAL	D
	J091	EMB90TV-404A	SPEAKER TERMINAL	E
	J091	EMB90TV-404A	SPEAKER TERMINAL	F
	J091	EMB90TV-403A	SPEAKER TERMINAL	G
	J091	EMB90TV-403A	SPEAKER TERMINAL	H
	J781	QMS3L10-EDOH	MINI JACK(MIC TERMINAL)	B
	J781	QMS3L10-EDOH	MINI JACK(MIC TERMINAL)	C
	J781	QMS3L10-EDOH	MINI JACK(MIC TERMINAL)	D
	J781	QMS3L10-EDOH	MINI JACK(MIC TERMINAL)	E
	J781	QMS3L10-EDOH	MINI JACK(MIC TERMINAL)	F
	J781	QMS3L10-EDOH	MINI JACK(MIC TERMINAL)	G
	J781	QMS3L10-EDOH	MINI JACK(MIC TERMINAL)	H
	J791	QMS3L10-EDOH	MINI JACK(HEADPHONE TERMINAL)	
	P671	EMV5109-006A	PLUG ASSY(6PIN) VOLUME IN/OUT	A
	P671	EMV5109-006A	PLUG ASSY(6PIN) VOLUME IN/OUT	B
	P671	EMV5109-009A	PLUG ASSY(9PIN) VOLUME IN/OUT	C
	P671	EMV5109-006A	PLUG ASSY(6PIN) VOLUME IN/OUT	D
	P671	EMV5109-006A	PLUG ASSY(6PIN) VOLUME IN/OUT	E
	P671	EMV5109-006A	PLUG ASSY(6PIN) VOLUME IN/OUT	F
	P671	EMV5109-006A	PLUG ASSY(6PIN) VOLUME IN/OUT	G
	P671	EMV5109-006A	PLUG ASSY(6PIN) VOLUME IN/OUT	H
	P672	EMV5109-003A	PLUG ASSY(3PIN) BALANCE	A
	P672	EMV5109-003A	PLUG ASSY(3PIN) BALANCE	B
	P672	EMV5109-003A	PLUG ASSY(3PIN) BALANCE	D
	P672	EMV5109-003A	PLUG ASSY(3PIN) BALANCE	E
	P672	EMV5109-003A	PLUG ASSY(3PIN) BALANCE	F
	P672	EMV5109-003A	PLUG ASSY(3PIN) BALANCE	G
	P672	EMV5109-003A	PLUG ASSY(3PIN) BALANCE	H
	P673	EMV5109-003A	PLUG ASSY(3PIN) BALANCE	C
	P674	EMV5142-906	PLUG ASSY(6PIN) VOLUME DRIVER	
	S201	ESP0001-023M	TACT SWITCH(TUNER ENTORY)	
	S202	ESP0001-023M	TACT SWITCH(WAKE-UP TIMER)	
	S203	ESP0001-023M	TACT SWITCH(REC TIMER)	
	S204	ESP0001-023M	TACT SWITCH(SLEEP TIMER)	
	S205	ESP0001-023M	TACT SWITCH(HOUR)	
	S206	ESP0001-023M	TACT SWITCH(CLOCK ADJ)	
	S207	ESP0001-023M	TACT SWITCH(MEMORY)	
	S208	ESP0001-023M	TACT SWITCH(UP)	
	S209	ESP0001-023M	TACT SWITCH(DOWN)	
	S210	ESP0001-023M	TACT SWITCH(PRESET UP)	
	S211	ESP0001-023M	TACT SWITCH(PRESET DOWN)	
	S212	ESP0001-023M	TACT SWITCH(FM)	
	S213	ESP0001-023M	TACT SWITCH(AM)	
	S214	ESP0001-023M	TACT SWITCH(MINUTES)	
	S215	ESP0001-023M	TACT SWITCH(SOURCE/REC TIME)	
	S216	ESP0001-023M	TACT SWITCH(VOL. SET)	
	S901	ESP0001-023M	TACT SWITCH(POWER)	
	S902	ESP0001-023M	TACT SWITCH(AI SLEEP)	
	S903	ESP0001-023M	TACT SWITCH(AUX)	
	S904	ESP0001-023M	TACT SWITCH(PHONO)	
	S905	ESP0001-023M	TACT SWITCH(AI SUPER BASS)	
	S906	ESP0001-023M	TACT SWITCH(OFF)	
	S907	ESP0001-023M	TACT SWITCH(PRESET DOWN : SET)	
	S908	ESP0001-023M	TACT SWITCH(PRESET UP : SEA)	
	S909	ESP0001-023M	TACT SWITCH(MODE)	
	S910	ESP0001-023M	TACT SWITCH(LIVE-S)	
	S911	ESP0001-023M	TACT SWITCH(SOUND MEMORY)	
	S912	ESP0001-023M	TACT SWITCH(KARAOKE)	
	BC672	EWS293-0116	SOCKET WIRE(3PIN) BALANCE	
	BC674	EWS326-A913	SOCKET WIRE(6PIN) TO VOLUME	
	BC701	EWS325-A920	SOCKET WIRE(5PIN) MIC PCB	B
	BC701	EWS299-0120	SOCKET WIRE(9PIN) MIC PCB	C
	BC701	EWS325-A920	SOCKET WIRE(5PIN) MIC PCB	D
	BC701	EWS325-A920	SOCKET WIRE(5PIN) MIC PCB	E
	BC701	EWS325-A920	SOCKET WIRE(5PIN) MIC PCB	F
	BC701	EWS325-A920	SOCKET WIRE(5PIN) MIC PCB	G
	BC701	EWS325-A920	SOCKET WIRE(5PIN) MIC PCB	H
	BK201	E308192-001	FL HOLDER	
	BK901	E308419-001SM	FL HOLDER	
	FL201	ELU0001-150	FL TUBE	
	FL901	ELU0001-152	FL TUBE	
	FS201	E306805-014	FELT SPACER	
	FS203	E3400-431	FELT SPACER	
	FS901	E306805-014	FELT SPACER	
	FW702	EWR34B-16LST	FLAT WIRE(4PIN) HEADPHONE	
	JA902	EMV5123-L070	PLUG ASSY(20PIN) FRONT PCB	
	JB005	EMV7125-004R	CONNECTOR(4PIN) SPEAKER TERMINAL	
	JB901	EMV7123-029R	CONNECTOR(29PIN) FRONT PCB	
	JB902	EMV7124-010	CONNECTOR(10PIN) TO JA902	
	JB903	EMV7124-009	CONNECTOR(9PIN) TO JA902	
	TC201	ENZ1003-015	TRIMMER	
	XT201	ECX4194-304CFTJ	RESONATOR	
	XT901	ECX0060-000EM	RESONATOR	

⚠ : SAFETY PARTS

■ENC-100☐ Selector, Amplifier & Regulator PC Board Ass'y

Note : ENC-100☐ varies according to the areas employed. See note (1) when placing an order.



ENB-174

The system controller (MN171202JHF) does not output the correct data for the live surround mode.Then Sub-SEA circuit (ENB-174) is added to improve this function.
The live surround circuit consists of the surround circuit and the SEA circuit. Because MN171202JHF can not control the SEA circuit for an unappropriate data, the added Sub-SEA circuit operates only in the live surround mode.
In the subsequent production runs, newly improved MN171202JHF1 has been installed for the previous IC and the Sub-SEA circuit becomes unnecessary. The necessary parts for the previous IC and improved one are different. The following table shows the differences.

シンボル	MN171202JHF	MN171202JHF1	
ENB-174	UESD	NONE	※
Q500	UESD	NONE	–
Q501	UESD	NONE	–
Q502	UESD	NONE	–
C613	UESD	NONE	※
C614	UESD	NONE	※
R703	UESD	NONE	※
R704	UESD	NONE	※
R713	UESD	NONE	–

シンボル	MN171202JHF	MN171202JHF1	
JA801	UESD	NONE	–
JA802	UESD	NONE	–
JA803	UESD	NONE	–
JA804	UESD	NONE	–
W508	UESD	NONE	–
W539	NONE	UESD	※
W540	NONE	UESD	※
W583	UESD	NONE	–
W584	NONE	UESD	※
W585	NONE	UESD	※
W613	UESD	NONE	–

The parts marked with ※ must be added or deleted according to the table after exchanging MN171202JHF for MN171202JHF1. It is not affected that the exchange of the other parts (except the parts marked with ※).
MN171202JHF has been used in the units with the serial number up to #7,000 for the continental europe version and up to #6,000 for the U.S.A. version

Note (1)

PC Board Ass'y	Designated Areas
ENC-100 A	the U.S.A.
ENC-100 B	Canada
ENC-100 C	Taiwan, Universal Type
ENC-100 D	Australia, Scandinavia Continental Europe the U.K.
ENC-100 E	Germany, Italy

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q021	DTC144ES	SILICON ROHM	
	Q022	2SC1740S(R,S)	SILICON ROHM	
	Q023	2SC1740S(R,S)	SILICON ROHM	
	Q024	2SA733A(P,Q)	SILICON ﾙｲｾｷ	
	Q065	DTC144ES	SILICON ROHM	
	Q066	DTA114YS	SILICON ROHM	
	Q067	DTA144ES	SILICON ROHM	
	Q068	DTC114YS	SILICON ROHM	
	Q070	2SD2061(E,F)	SILICON ROHM	
	Q071	2SD2061(E,F)	SILICON ROHM	
	Q072	2SC1740S(R,S)	SILICON ROHM	
	Q073	2SC1740S(R,S)	SILICON ROHM	A
	Q073	2SC1740S(R,S)	SILICON ROHM	B
	Q074	2SB1187(E,F)	SILICON ROHM	
	Q075	2SA564A(Q,R)	SILICON MATSUSHITA	
	Q076	2SD2061(E,F)	SILICON ROHM	
	Q077	2SC1740S(R,S)	SILICON ROHM	
	Q078	2SC1740S(R,S)	SILICON ROHM	A
	Q078	2SC1740S(R,S)	SILICON ROHM	B
	Q500	DTC114ES	SILICON ROHM	
	Q501	DTA114ES	SILICON ROHM	
	Q502	DTC114ES	SILICON ROHM	
	Q505	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q506	2SK301(P,Q)	F.E.T MATSUSHITA	
	Q507	DTA144ES	SILICON ROHM	
	Q508	2SC1740S(R,S)	SILICON ROHM	
	Q509	DTA144ES	SILICON ROHM	
	Q510	2SK301(P,Q)	F.E.T MATSUSHITA	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC500	STK4141MK5	I.C. SANYO	
	IC501	TC9162N	I.C. TOSHIBA	
	IC502	VC4580L	I.C. DAINICHI	
	IC503	VC4580LD	I.C. DAINICHI	
	IC504	XRA15218N	I.C. EXAR JAPAN	B
	IC504	XRA15218N	I.C. EXAR JAPAN	C
	IC504	XRA15218N	I.C. EXAR JAPAN	D
	IC504	XRA15218N	I.C. EXAR JAPAN	E
	IC511	M5243P12	I.C. MITSUBISHI	
	IC512	TC9163N	I.C. TOSHIBA	
	IC514	XRA15218N	I.C. EXAR JAPAN	
	IC515	VC4580L	I.C. DAINICHI	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D030	1SS119	SILICON HITACHI	
	D071	RD13JSB3	ZENER NEC	
	D072	MTZ13JC	ZENER ROHM	
	D073	MTZ13JC	ZENER ROHM	
	D074	RD13JSB3	ZENER NEC	
	D075	MTZ11JC	ZENER ROHM	
	D076	MTZ12JC	ZENER ROHM	
	D077	1SR139-200	SILICON ROHM	
	D078	1SR139-200	SILICON ROHM	
	D079	1SR139-200	SILICON ROHM	
	D080	MTZ6.8JC	ZENER ROHM	
	D081	MTZ6.2JC	ZENER ROHM	
	D501	1SS119	SILICON HITACHI	
	D502	1SS119	SILICON HITACHI	
	D511	MTZ6.2JC	ZENER ROHM	
	D512	MTZ6.2JC	ZENER ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C040	QETB1CM-226	22MF 16V ELECTRO	
	C041	QETB1AM-476	47MF 10V ELECTRO	
	C078	QETB1EM-226	22MF 25V ELECTRO	
	C079	QETB1EM-227	220MF 25V ELECTRO	
	C080	QCVB1CM-103	0.01MF 16V CERAMIC	
	C081	QETB1EM-226	22MF 25V ELECTRO	
	C082	QETB1EM-226	22MF 25V ELECTRO	
	C083	QCVB1CM-103	0.01MF 16V CERAMIC	
	C084	QETB1EM-226	22MF 25V ELECTRO	
	C085	EEZ5009-106	10MF ELECTRO	
	C086	QETB1EM-226	22MF 25V ELECTRO	
	C087	QCVB1CM-103	0.01MF 16V CERAMIC	
	C090	QETB1EM-226	22MF 25V ELECTRO	
	C091	QCVB1CM-103	0.01MF 16V CERAMIC	
	C092	QETB1EM-226	22MF 25V ELECTRO	
	C093	QETB1EM-226	22MF 25V ELECTRO	
	C501	EEZ2505-226	22MF ELECTRO	
	C502	EEZ2505-226	22MF ELECTRO	
	C503	QCBB1HK-561	560PF 50V CERAMIC	
	C504	QCBB1HK-561	560PF 50V CERAMIC	
	C505	QCBB1HK-101	100PF 50V CERAMIC	
	C506	QCBB1HK-101	100PF 50V CERAMIC	
	C507	EET2501-107E	100MF ELECTRO	
	C508	EET2501-107E	100MF ELECTRO	
	C509	QCT30CH-100	10PF 50V CERAMIC	
	C510	QCT30CH-100	10PF 50V CERAMIC	
	C511	QETB1HM-226	22MF 50V ELECTRO	
	C512	QETB1HM-226	22MF 50V ELECTRO	
	C513	QETB1HM-227	220MF 50V ELECTRO	A
	C513	QETB1HM-227	220MF 50V ELECTRO	B
	C513	QETB1HM-107	100MF 50V ELECTRO	C
	C513	QETB1HM-107	100MF 50V ELECTRO	D
	C513	QETB1HM-107	100MF 50V ELECTRO	E
	C514	QFV81HJ-104	0.1MF 50V T.FILM	B
	C514	QFV81HJ-104	0.1MF 50V T.FILM	C
	C514	QFV81HJ-104	0.1MF 50V T.FILM	D
	C514	QFV81HJ-104	0.1MF 50V T.FILM	E
	C515	QFV81HJ-104	0.1MF 50V T.FILM	B
	C515	QFV81HJ-104	0.1MF 50V T.FILM	C
	C515	QFV81HJ-104	0.1MF 50V T.FILM	D
	C515	QFV81HJ-104	0.1MF 50V T.FILM	E
	C516	QFV81HJ-473	0.047MF 50V T.FILM	A
	C516	QFV81HJ-104	0.1MF 50V T.FILM	B
	C516	QFV81HJ-104	0.1MF 50V T.FILM	C
	C516	QFV81HJ-104	0.1MF 50V T.FILM	D
	C516	QFV81HJ-104	0.1MF 50V T.FILM	E
	C517	QFV81HJ-473	0.047MF 50V T.FILM	A
	C517	QFV81HJ-104	0.1MF 50V T.FILM	B
	C517	QFV81HJ-104	0.1MF 50V T.FILM	C
	C517	QFV81HJ-104	0.1MF 50V T.FILM	D
	C517	QFV81HJ-104	0.1MF 50V T.FILM	E
	C521	QCBB1HK-681	680PF 50V CERAMIC	E
	C522	QETB1HM-106	10MF 50V ELECTRO	
	C523	QFLB1HJ-473	0.047MF 50V MYLAR	
	C524	QFLB1HJ-473	0.047MF 50V MYLAR	
	C531	QCBB1HK-331	330PF 50V CERAMIC	E
	C532	QCBB1HK-331	330PF 50V CERAMIC	E
	C533	EEZ2505-476	47MF ELECTRO	
	C534	EEZ2505-476	47MF ELECTRO	
	C535	QETB1HM-475	4.7MF 50V ELECTRO	
	C536	QETB1HM-475	4.7MF 50V ELECTRO	
	C537	QETB1HM-475	4.7MF 50V ELECTRO	
	C538	QETB1HM-475	4.7MF 50V ELECTRO	
	C539	QCBB1HK-101	100PF 50V CERAMIC	
	C540	QCBB1HK-101	100PF 50V CERAMIC	
	C543	QCBB1HK-101	100PF 50V CERAMIC	
	C544	QCBB1HK-101	100PF 50V CERAMIC	
	C545	QETB1HM-475	4.7MF 50V ELECTRO	
	C546	QETB1HM-475	4.7MF 50V ELECTRO	
	C547	QETB1HM-475	4.7MF 50V ELECTRO	
	C548	QETB1HM-475	4.7MF 50V ELECTRO	
	C549	QETB1EM-476	47MF 25V ELECTRO	
	C550	QETB1EM-476	47MF 25V ELECTRO	
	C551	QETB1EM-476	47MF 25V ELECTRO	
	C552	QETB1EM-476	47MF 25V ELECTRO	
	C553	QFLB1HJ-182	1800PF 50V MYLAR	
	C554	QFLB1HJ-182	1800PF 50V MYLAR	
	C555	QFLB1HJ-682	6800PF 50V MYLAR	
	C556	QFLB1HJ-682	6800PF 50V MYLAR	
	C557	QCBB1HK-561	560PF 50V CERAMIC	E
	C558	QCBB1HK-561	560PF 50V CERAMIC	E
	C559	QCHB1EZ-223	0.022MF 25V CERAMIC	E
	C560	QETB1HM-475	4.7MF 50V ELECTRO	B
	C560	QETB1HM-475	4.7MF 50V ELECTRO	C
	C560	QETB1HM-475	4.7MF 50V ELECTRO	D
	C560	QETB1HM-475	4.7MF 50V ELECTRO	E
	C563	QFLB1HJ-683	0.068MF 50V MYLAR	B
	C563	QFLB1HJ-683	0.068MF 50V MYLAR	C
	C563	QFLB1HJ-683	0.068MF 50V MYLAR	D
	C563	QFLB1HJ-683	0.068MF 50V MYLAR	E
	C581	QETB1EM-106	10MF 25V ELECTRO	
	C582	QETB1EM-106	10MF 25V ELECTRO	
	C583	QCGB1HK-821	820PF 50V CERAMIC	
	C584	QCGB1HK-821	820PF 50V CERAMIC	
	C585	QETB1EM-106	10MF 25V ELECTRO	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C586	QETB1EM-106	10MF 25V ELECTRO	
	C587	QFLB1HJ-272	2700PF 50V MYLAR	
	C588	QFLB1HJ-272	2700PF 50V MYLAR	
	C589	QFLB1HJ-471	470PF 50V MYLAR	
	C590	QFLB1HJ-471	470PF 50V MYLAR	
	C591	QFLB1HJ-473	0.047MF 50V MYLAR	
	C592	QFLB1HJ-473	0.047MF 50V MYLAR	
	C593	QFLB1HJ-822	8200PF 50V MYLAR	
	C594	QFLB1HJ-822	8200PF 50V MYLAR	
	C595	QER51HM-684	0.68MF 50V ELECTRO	
	C596	QER51HM-684	0.68MF 50V ELECTRO	
	C597	QFV81HJ-154	0.15MF 50V T.FILM	
	C598	QFV81HJ-154	0.15MF 50V T.FILM	
	C599	QETB1EM-476	47MF 25V ELECTRO	
	C600	QETB1EM-476	47MF 25V ELECTRO	
	C601	QETB1EM-476	47MF 25V ELECTRO	
	C602	QETB1EM-476	47MF 25V ELECTRO	
	C611	EEZ2505-476	47MF ELECTRO	
	C612	EEZ2505-476	47MF ELECTRO	
	C613	QETB1EM-106	10MF 25V ELECTRO	
	C614	QETB1EM-106	10MF 25V ELECTRO	
	C615	EEZ5009-106	10MF ELECTRO	
	C616	EEZ5009-106	10MF ELECTRO	
	C617	QETB1HM-106	10MF 50V ELECTRO	B
	C617	QETB1HM-106	10MF 50V ELECTRO	C
	C617	QETB1HM-106	10MF 50V ELECTRO	D
	C617	QETB1HM-106	10MF 50V ELECTRO	E
	C618	QETB1HM-106	10MF 50V ELECTRO	B
	C618	QETB1HM-106	10MF 50V ELECTRO	C
	C618	QETB1HM-106	10MF 50V ELECTRO	D
	C618	QETB1HM-106	10MF 50V ELECTRO	E
	C619	QFV81HJ-393	0.039MF 50V T.FILM	
	C620	QFV81HJ-393	0.039MF 50V T.FILM	
	C621	QFV81HJ-104	0.1MF 50V T.FILM	
	C622	QFV81HJ-104	0.1MF 50V T.FILM	
	C623	QER51HM-225G	2.2MF 50V ELECTRO	
	C624	QER51HM-225G	2.2MF 50V ELECTRO	
	C625	EEZ5009-106	10MF ELECTRO	
	C626	EEZ5009-106	10MF ELECTRO	
	C629	QCBB1HK-561	560PF 50V CERAMIC	
	C631	QCSB1HJ-220	22PF 50V CERAMIC	
	C632	QCSB1HJ-220	22PF 50V CERAMIC	
	C634	QETB1EM-106	10MF 25V ELECTRO	
	C635	QCSB1HJ-470	47PF 50V CERAMIC	
	C636	QCSB1HJ-470	47PF 50V CERAMIC	
	C637	QFLB1HJ-392	3900PF 50V MYLAR	
	C638	QEK51HM-105G	1MF 50V ELECTRO	
	C639	QCSB1HJ-220	22PF 50V CERAMIC	
	C640	QCSB1HJ-220	22PF 50V CERAMIC	
	C641	QETB1EM-106	10MF 25V ELECTRO	
	C642	QETB1EM-106	10MF 25V ELECTRO	
	C643	QETB1EM-106	10MF 25V ELECTRO	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R070	QRD167J-333	33K 1/6W CARBON	
	R073	QRD167J-682	6.8K 1/6W CARBON	
	R074	QRD167J-104	100K 1/6W CARBON	
	R075	QRD167J-104	100K 1/6W CARBON	
	R077	QRD167J-823	82K 1/6W CARBON	
	R078	QRD167J-104	100K 1/6W CARBON	
	R080	QRD167J-103	10K 1/6W CARBON	
	R081	QRD167J-152	1.5K 1/6W CARBON	
	R082	QRD167J-471	470 1/6W CARBON	
⚠	R083	QRX012J-R68AM	0.68 1W M.FILM	A
⚠	R083	QRX012J-R68AM	0.68 1W M.FILM	B
⚠	R084	QRD14CJ-1R0S	1 1/4W UNF.CARBON	
⚠	R085	QRX012J-R47AM	0.47 1W M.FILM	A
⚠	R085	QRX012J-R47AM	0.47 1W M.FILM	B
⚠	R086	QRD14CJ-1R0S	1 1/4W UNF.CARBON	A
⚠	R086	QRD14CJ-1R0S	1 1/4W UNF.CARBON	B
	R087	QRD167J-103	10K 1/6W CARBON	
	R088	QRD167J-103	10K 1/6W CARBON	
⚠	R089	QRD14CJ-1R0S	1 1/4W UNF.CARBON	
	R090	QRD167J-332	3.3K 1/6W CARBON	
	R091	QRD167J-103	10K 1/6W CARBON	
⚠	R092	QRD14CJ-2R7S	2.7 1/4W UNF.CARBON	
	R093	QRD167J-222	2.2K 1/6W CARBON	
	R501	QRD167J-563	56K 1/6W CARBON	
	R502	QRD167J-563	56K 1/6W CARBON	
⚠	R503	QRD14CJ-471S	470 1/4W UNF.CARBON	
⚠	R504	QRD14CJ-471S	470 1/4W UNF.CARBON	
	R505	QRD167J-471	470 1/6W CARBON	
	R506	QRD167J-471	470 1/6W CARBON	
	R507	QRD167J-563	56K 1/6W CARBON	
	R508	QRD167J-563	56K 1/6W CARBON	
⚠	R509	QRD14CJ-272S	2.7K 1/4W UNF.CARBON	
⚠	R510	QRD14CJ-272S	2.7K 1/4W UNF.CARBON	
	R511	QRD167J-102	1K 1/6W CARBON	
	R512	QRD167J-102	1K 1/6W CARBON	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R513	QRD14CJ-272S	2.7K 1/4W UNF.CARBON	
⚠	R514	QRD14CJ-272S	2.7K 1/4W UNF.CARBON	
⚠	R517	QRX012J-R22AM	0.22 1W M.FILM	
⚠	R518	QRX012J-R22AM	0.22 1W M.FILM	
⚠	R519	QRD14CJ-101S	100 1/4W UNF.CARBON	A
⚠	R519	QRD14CJ-101S	100 1/4W UNF.CARBON	B
⚠	R519	QRZ0077-101	100 1/4W FUSIBLE	C
⚠	R519	QRZ0077-101	100 1/4W FUSIBLE	D
⚠	R519	QRZ0077-101	100 1/4W FUSIBLE	E
⚠	R520	QRZ0077-100	10 1/4W FUSIBLE	
⚠	R521	QRD14CJ-100S	10 1/4W UNF.CARBON	
⚠	R522	QRD14CJ-100S	10 1/4W UNF.CARBON	
⚠	R523	QRD14CJ-100S	10 1/4W UNF.CARBON	
⚠	R524	QRD14CJ-100S	10 1/4W UNF.CARBON	
	R525	QRD167J-332	3.3K 1/6W CARBON	
⚠	R526	QRD14CJ-100S	10 1/4W UNF.CARBON	
	R527	QRD167J-272	2.7K 1/6W CARBON	
	R528	QRD167J-272	2.7K 1/6W CARBON	
	R529	QRD167J-103	10K 1/6W CARBON	
	R531	QRD167J-153	15K 1/6W CARBON	
	R532	QRD167J-153	15K 1/6W CARBON	
	R533	QRD167J-104	100K 1/6W CARBON	
	R534	QRD167J-104	100K 1/6W CARBON	
	R539	QRD167J-222	2.2K 1/6W CARBON	
	R540	QRD167J-222	2.2K 1/6W CARBON	
	R541	QRD167J-392	3.9K 1/6W CARBON	
	R542	QRD167J-392	3.9K 1/6W CARBON	
	R543	QRD167J-331	330 1/6W CARBON	
	R544	QRD167J-331	330 1/6W CARBON	
	R545	QRD167J-104	100K 1/6W CARBON	
	R546	QRD167J-104	100K 1/6W CARBON	
	R547	QRD167J-104	100K 1/6W CARBON	
	R548	QRD167J-104	100K 1/6W CARBON	
	R549	QRD167J-104	100K 1/6W CARBON	
	R550	QRD167J-104	100K 1/6W CARBON	
	R551	QRD167J-104	100K 1/6W CARBON	
	R552	QRD167J-104	100K 1/6W CARBON	
	R553	QRD167J-222	2.2K 1/6W CARBON	
	R554	QRD167J-222	2.2K 1/6W CARBON	
	R555	QRD167J-473	47K 1/6W CARBON	
	R556	QRD167J-473	47K 1/6W CARBON	
	R557	QRD167J-474	470K 1/6W CARBON	
	R558	QRD167J-474	470K 1/6W CARBON	
	R559	QRD167J-393	39K 1/6W CARBON	
	R560	QRD167J-393	39K 1/6W CARBON	
	R561	QRD167J-751	750 1/6W CARBON	
	R562	QRD167J-751	750 1/6W CARBON	
	R565	QRD167J-391	390 1/6W CARBON	
	R566	QRD167J-391	390 1/6W CARBON	
	R567	QRD167J-473	47K 1/6W CARBON	B
	R567	QRD167J-473	47K 1/6W CARBON	C
	R567	QRD167J-473	47K 1/6W CARBON	D
	R567	QRD167J-473	47K 1/6W CARBON	E
	R568	QRD167J-473	47K 1/6W CARBON	B
	R568	QRD167J-473	47K 1/6W CARBON	C
	R568	QRD167J-473	47K 1/6W CARBON	D
	R568	QRD167J-473	47K 1/6W CARBON	E
	R569	QRD167J-473	47K 1/6W CARBON	B
	R569	QRD167J-473	47K 1/6W CARBON	C
	R569	QRD167J-473	47K 1/6W CARBON	D
	R569	QRD167J-473	47K 1/6W CARBON	E
	R570	QRD167J-473	47K 1/6W CARBON	B
	R570	QRD167J-473	47K 1/6W CARBON	C
	R570	QRD167J-473	47K 1/6W CARBON	D
	R570	QRD167J-473	47K 1/6W CARBON	E
	R571	QRD167J-473	47K 1/6W CARBON	B
	R571	QRD167J-473	47K 1/6W CARBON	C
	R571	QRD167J-473	47K 1/6W CARBON	D
	R571	QRD167J-473	47K 1/6W CARBON	E
	R572	QRD167J-473	47K 1/6W CARBON	B
	R572	QRD167J-473	47K 1/6W CARBON	C
	R572	QRD167J-473	47K 1/6W CARBON	D
	R572	QRD167J-473	47K 1/6W CARBON	E
	R573	QRD167J-104	100K 1/6W CARBON	B
	R573	QRD167J-104	100K 1/6W CARBON	C
	R573	QRD167J-104	100K 1/6W CARBON	D
	R573	QRD167J-104	100K 1/6W CARBON	E
	R609	QRD167J-362	3.6K 1/6W CARBON	
	R610	QRD167J-362	3.6K 1/6W CARBON	
	R621	QRD167J-752	7.5K 1/6W CARBON	
	R622	QRD167J-752	7.5K 1/6W CARBON	
	R623	QRD167J-562	5.6K 1/6W CARBON	
	R624	QRD167J-562	5.6K 1/6W CARBON	
	R625	QRD167J-103	10K 1/6W CARBON	
	R626	QRD167J-103	10K 1/6W CARBON	
	R627	QRD167J-303	30K 1/6W CARBON	
	R628	QRD167J-303	30K 1/6W CARBON	
	R629	QRD167J-123	12K 1/6W CARBON	
	R630	QRD167J-123	12K 1/6W CARBON	
	R631	QRD167J-472	4.7K 1/6W CARBON	
	R632	QRD167J-472	4.7K 1/6W CARBON	
	R633	QRD167J-183	18K 1/6W CARBON	
	R634	QRD167J-183	18K 1/6W CARBON	
	R635	QRD167J-912	9.1K 1/6W CARBON	
	R636	QRD167J-912	9.1K 1/6W CARBON	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R637	QRD167J-243	24K 1/6W CARBON	
	R638	QRD167J-243	24K 1/6W CARBON	
	R639	QRD167J-562	5.6K 1/6W CARBON	
	R640	QRD167J-562	5.6K 1/6W CARBON	
	R641	QRD167J-333	33K 1/6W CARBON	
	R642	QRD167J-333	33K 1/6W CARBON	
	R667	QRD167J-331	330 1/6W CARBON	
	R668	QRD167J-331	330 1/6W CARBON	
	R703	QRD167J-104	100K 1/6W CARBON	
	R704	QRD167J-104	100K 1/6W CARBON	
	R705	QRD167J-104	100K 1/6W CARBON	
	R706	QRD167J-104	100K 1/6W CARBON	
	R707	QRD167J-202	2K 1/6W CARBON	B
	R707	QRD167J-202	2K 1/6W CARBON	C
	R707	QRD167J-202	2K 1/6W CARBON	D
	R707	QRD167J-202	2K 1/6W CARBON	E
	R708	QRD167J-202	2K 1/6W CARBON	B
	R708	QRD167J-202	2K 1/6W CARBON	C
	R708	QRD167J-202	2K 1/6W CARBON	D
	R708	QRD167J-202	2K 1/6W CARBON	E
	R709	QRD167J-361	360 1/6W CARBON	A
	R709	QRD167J-132	1.3K 1/6W CARBON	B
	R709	QRD167J-132	1.3K 1/6W CARBON	C
	R709	QRD167J-132	1.3K 1/6W CARBON	D
	R709	QRD167J-132	1.3K 1/6W CARBON	E
	R710	QRD167J-361	360 1/6W CARBON	A
	R710	QRD167J-132	1.3K 1/6W CARBON	B
	R710	QRD167J-132	1.3K 1/6W CARBON	C
	R710	QRD167J-132	1.3K 1/6W CARBON	D
	R710	QRD167J-132	1.3K 1/6W CARBON	E
	R711	QRD167J-910	91 1/6W CARBON	
	R712	QRD167J-910	91 1/6W CARBON	
	R713	QRD167J-103	10K 1/6W CARBON	
	R715	QRD167J-102	1K 1/6W CARBON	B
	R715	QRD167J-102	1K 1/6W CARBON	C
	R715	QRD167J-102	1K 1/6W CARBON	D
	R715	QRD167J-102	1K 1/6W CARBON	E
	R716	QRD167J-102	1K 1/6W CARBON	B
	R716	QRD167J-102	1K 1/6W CARBON	C
	R716	QRD167J-102	1K 1/6W CARBON	D
	R716	QRD167J-102	1K 1/6W CARBON	E
	R717	QRD167J-103	10K 1/6W CARBON	
	R718	QRD167J-103	10K 1/6W CARBON	
	R719	QRD167J-473	47K 1/6W CARBON	
	R720	QRD167J-473	47K 1/6W CARBON	
	R721	QRD167J-132	1.3K 1/6W CARBON	
	R722	QRD167J-132	1.3K 1/6W CARBON	
	R725	QRD167J-512	5.1K 1/6W CARBON	
	R726	QRD167J-512	5.1K 1/6W CARBON	
	R727	QRD167J-105	1M 1/6W CARBON	
	R728	QRD167J-105	1M 1/6W CARBON	
	R729	QRD167J-122	1.2K 1/6W CARBON	
	R730	QRD167J-122	1.2K 1/6W CARBON	
	R731	QRD167J-473	47K 1/6W CARBON	
	R732	QRD167J-473	47K 1/6W CARBON	
	R733	QRD167J-432	4.3K 1/6W CARBON	
	R734	QRD167J-432	4.3K 1/6W CARBON	
	R735	QRD167J-473	47K 1/6W CARBON	
	R736	QRD167J-473	47K 1/6W CARBON	
	R737	QRD167J-473	47K 1/6W CARBON	
	R738	QRD167J-473	47K 1/6W CARBON	
	R739	QRD167J-104	100K 1/6W CARBON	
	R740	QRD167J-104	100K 1/6W CARBON	
	R741	QRD167J-105	1M 1/6W CARBON	
	R742	QRD167J-102	1K 1/6W CARBON	
	R745	QRD167J-105	1M 1/6W CARBON	
	R746	QRD167J-105	1M 1/6W CARBON	
	R747	QRD167J-472	4.7K 1/6W CARBON	
	R751	QRD167J-393	39K 1/6W CARBON	
	R752	QRD167J-393	39K 1/6W CARBON	
	R757	QRD167J-105	1M 1/6W CARBON	
	R758	QRD167J-393	39K 1/6W CARBON	
	R759	QRD167J-105	1M 1/6W CARBON	
	R760	QRD167J-224	220K 1/6W CARBON	
	R761	QRD161J-221	220 1/6W CARBON	
	R762	QRD161J-221	220 1/6W CARBON	
	R763	QRD167J-562	5.6K 1/6W CARBON	
	R764	QRD167J-562	5.6K 1/6W CARBON	
	R767	QRD167J-472	4.7K 1/6W CARBON	
	R768	QRD167J-102	1K 1/6W CARBON	

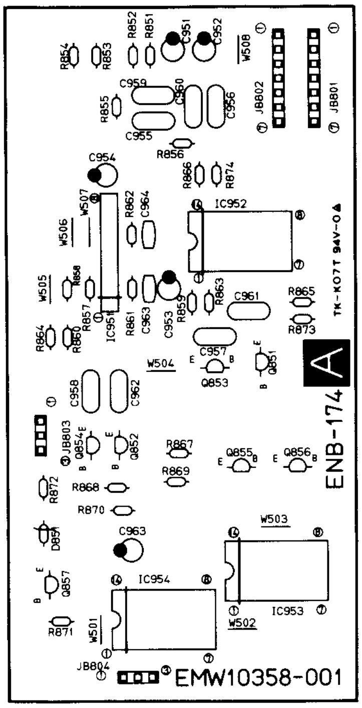
⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	J501	EMN00TV-412B	4P PIN JACK(PHONO, AUX INPUT)	
	K501	ENZ8101-007	INDUCTOR	E
	K502	ENZ8101-007	INDUCTOR	E
	L501	EQL0001-R45	INDUCTOR	
	L502	EQL0001-R45	INDUCTOR	
	L503	EQL4004-1R0	INDUCTOR	E
	JA800	EMV7136-007	CONNECTOR(7PIN)	
	JA801	EMV7136-007	CONNECTOR(7PIN)	
	JA802	EMV7136-003	CONNECTOR(3PIN)	
	JA803	EMV7136-003	CONNECTOR(3PIN)	
	JB001	EMV7140-L15R	CONNECTOR(15PIN) TO MAIN PCB	
	JB002	EMV7125-010R	CONNECTOR(10PIN) TO MAIN PCB	
	JB003	EMV7125-010R	CONNECTOR(10PIN) REGULATOR PCB	
	JB004	EMV7125-011R	CONNECTOR(11PIN) AMP. PCB	

⚠ : SAFETY PART

■ENB-174 A Sub SEA PC Board Ass'y


R854
R853
R852
R851
C951
C952
W508
JB802
JB801
C959
C960
R855
C956
C955
R856
C954
R866
R874
W507
W506
R862
C964
IC952
TK-K07T 94V-0
W505
R858
R857
IC951
R861
C963
C953
R859
R863
C961
R865
R873
R864
R860
C957
W504
Q853
Q851
A
C958
C962
JB803
Q854
Q852
R867
Q855
Q856
R869
ENB-174
R872
R868
R870
D851
C963
W503
IC954
IC953
Q857
W502
R871
W501
JB804
EMW10358-001

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R851	QRD167J-303	30K 1/6W CARBON	
	R852	QRD167J-303	30K 1/6W CARBON	
	R855	QRD167J-472	4.7K 1/6W CARBON	
	R856	QRD167J-472	4.7K 1/6W CARBON	
	R857	QRD167J-223	22K 1/6W CARBON	
	R858	QRD167J-223	22K 1/6W CARBON	
	R859	QRD167J-222	2.2K 1/6W CARBON	
	R860	QRD167J-222	2.2K 1/6W CARBON	
	R861	QRD167J-103	10K 1/6W CARBON	
	R862	QRD167J-103	10K 1/6W CARBON	
	R863	QRD167J-472	4.7K 1/6W CARBON	
	R864	QRD167J-472	4.7K 1/6W CARBON	
	R865	QRD167J-104	100K 1/6W CARBON	
	R866	QRD167J-104	100K 1/6W CARBON	
	R867	QRD167J-103	10K 1/6W CARBON	
	R868	QRD167J-103	10K 1/6W CARBON	
	R869	QRD167J-103	10K 1/6W CARBON	
	R870	QRD167J-103	10K 1/6W CARBON	
	R871	QRD167J-102	1K 1/6W CARBON	
	R872	QRD167J-561	560 1/6W CARBON	
	R875	QRD167J-153	15K 1/6W CARBON	
	R876	QRD167J-153	15K 1/6W CARBON	

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	JB801	9201B-107	PLUG ASSY(7PIN)	
	JB802	9201B-107	PLUG ASSY(7PIN)	
	JB803	9201B-103	PLUG ASSY(5PIN)	
	JB804	9201B-103	PLUG ASSY(5PIN)	

⚠ : SAFETY PARTS

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q851	2SD2144S(VW)	SILICON ROHM	
	Q852	2SD2144S(VW)	SILICON ROHM	
	Q853	2SD2144S(VW)	SILICON ROHM	
	Q854	2SD2144S(VW)	SILICON ROHM	
	Q855	DTA114ES	SILICON ROHM	
	Q856	DTA114ES	SILICON ROHM	
	Q857	DTC114ES	SILICON ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC951	BA15218N	I.C. ROHM	
	IC952	LC4966	I.C. SANYO	
	IC953	TC74HC74AP	I.C. TOSHIBA	
	IC954	TC74HC164AP	I.C. TOSHIBA	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D851	MTZ5.1JC	ZENER ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C953	QEK51EM-475G	4.7MF 25V ELECTRO	
	C954	QEK51EM-475G	4.7MF 25V ELECTRO	
	C955	QFVB1HJ-124N	0.12MF 50V T.FILM	
	C956	QFVB1HJ-124N	0.12MF 50V T.FILM	
	C957	QFVB1HJ-124N	0.12MF 50V T.FILM	
	C958	QFVB1HJ-124N	0.12MF 50V T.FILM	
	C959	QFN81HJ-472	4700PF 50V MYLAR	
	C960	QFN81HJ-472	4700PF 50V MYLAR	
	C961	QFN81HJ-153	0.015MF 50V MYLAR	
	C962	QFN81HJ-153	0.015MF 50V MYLAR	
	C963	QCSB1HJ-470	47PF 50V CERAMIC	
	C964	QCSB1HJ-470	47PF 50V CERAMIC	
	C965	QEK51EM-475G	4.7MF 25V ELECTRO	

⚠ : SAFETY PARTS

Accessories List

⚠	Part Number	Part Name	Q'ty	Description	Areas
	E30580-1961B	INSTRUCTION BOOK	1		J
	E30580-1962A	INSTRUCTION BOOK	1		A
	E30580-1962ABS	INSTRUCTION BOOK	1		BS
	E30580-1963A	INSTRUCTION BOOK	1		C
	E30580-1963A	INSTRUCTION BOOK	1		EF
	E30580-1963A	INSTRUCTION BOOK	1		G
	E30580-1963A	INSTRUCTION BOOK	1		GI
	E30580-1964A	INSTRUCTION BOOK	1		EN
	E30580-1980A	INSTRUCTION BOOK	1		U
	E30580-1980A	INSTRUCTION BOOK	1		UT
	BT-51006-1	SAFETY REGISTRATION CARD	1		J
	BT-20025K	WARRANTY CARD	1		C
	BT20060	WARRANTY CARD	1		BS
	BT-20134	WARRANTY CARD	1		G
	BT-20122	WARRANTY CARD	1		A
	BT-20122-1	STICKER	1		A
	BT-20044G	SAFETY INSTRUCTION SHEET	1		J
	BT20071A	SERVICE CENTER LIST	1		C
	BT-20066A	EEC AGENCY	1		BS
	E43486-340A	SAFETY SHEET	1		BS
⚠	E04056	SIEMENS PLUG	1		U
⚠	E04056	SIEMENS PLUG	1		UT
	E35497-019	CAUTION SHEET	1	220V	U
	E35497-019	CAUTION SHEET	1	220V	UT
	E306858-002	CAUTION SHEET	1		UT
	EWP502-005K	BILT-IN ANTENNA	1		J
	EWP502-005K	BILT-IN ANTENNA	1		C
	EWP502-005K	BILT-IN ANTENNA	1		A
	EWP502-005K	BILT-IN ANTENNA	1		BS
	EWP502-005K	BILT-IN ANTENNA	1		EF
	EWP502-005K	BILT-IN ANTENNA	1		EN
	EWP502-005K	BILT-IN ANTENNA	1		GI
	EWP502-005K	BILT-IN ANTENNA	1		U
	EWP502-005K	BILT-IN ANTENNA	1		UT
	E67007-001	ANTENNA WIRE	1		G
	EMZ2001-014	ADAPTOR	1		J
	EMZ2001-014	ADAPTOR	1		C
	EMZ2001-014	ADAPTOR	1		A
	EMZ2001-014	ADAPTOR	1		BS
	EMZ2001-014	ADAPTOR	1		EF
	EMZ2001-014	ADAPTOR	1		EN
	EMZ2001-014	ADAPTOR	1		GI
	EMZ2001-014	ADAPTOR	1		U
	EMZ2001-014	ADAPTOR	1		UT
	EQB4001-015J2	LOOP ANTENNA	1		
	RM-SEMXS4U	REMOTE CONTROLLER	1		
	R03BPA-2STSA	BATTERY	1		J
	R03BPA-2STSA	BATTERY	1		C
	UM-4NJ-2PSA	BATTERY	1		A
	UM-4NJ-2PSA	BATTERY	1		BS
	UM-4NJ-2PSA	BATTERY	1		EF
	UM-4NJ-2PSA	BATTERY	1		EN
	UM-4NJ-2PSA	BATTERY	1		G
	UM-4NJ-2PSA	BATTERY	1		GI
	UM-4NJ-2PSA	BATTERY	1		U

⚠	Part Number	Part Name	Q'ty	Description	Areas
	UM-4NJ-2PSA	BATTERY	1		UT
	QPGA025-03505	ENVELOPE	1		C
	QPGA025-03505	ENVELOPE	1		A
	QPGA025-03505	ENVELOPE	1		EF
	QPGA025-03505	ENVELOPE	1		EN
	QPGA025-03505	ENVELOPE	1		G
	QPGA025-03505	ENVELOPE	1		GI
	QPGA025-03505	ENVELOPE	1		U
	QPGA025-03505	ENVELOPE	1		UT
	QPGA025-03505B	ENVELOPE	1		J
	QPGA025-03505B	ENVELOPE	1		BS

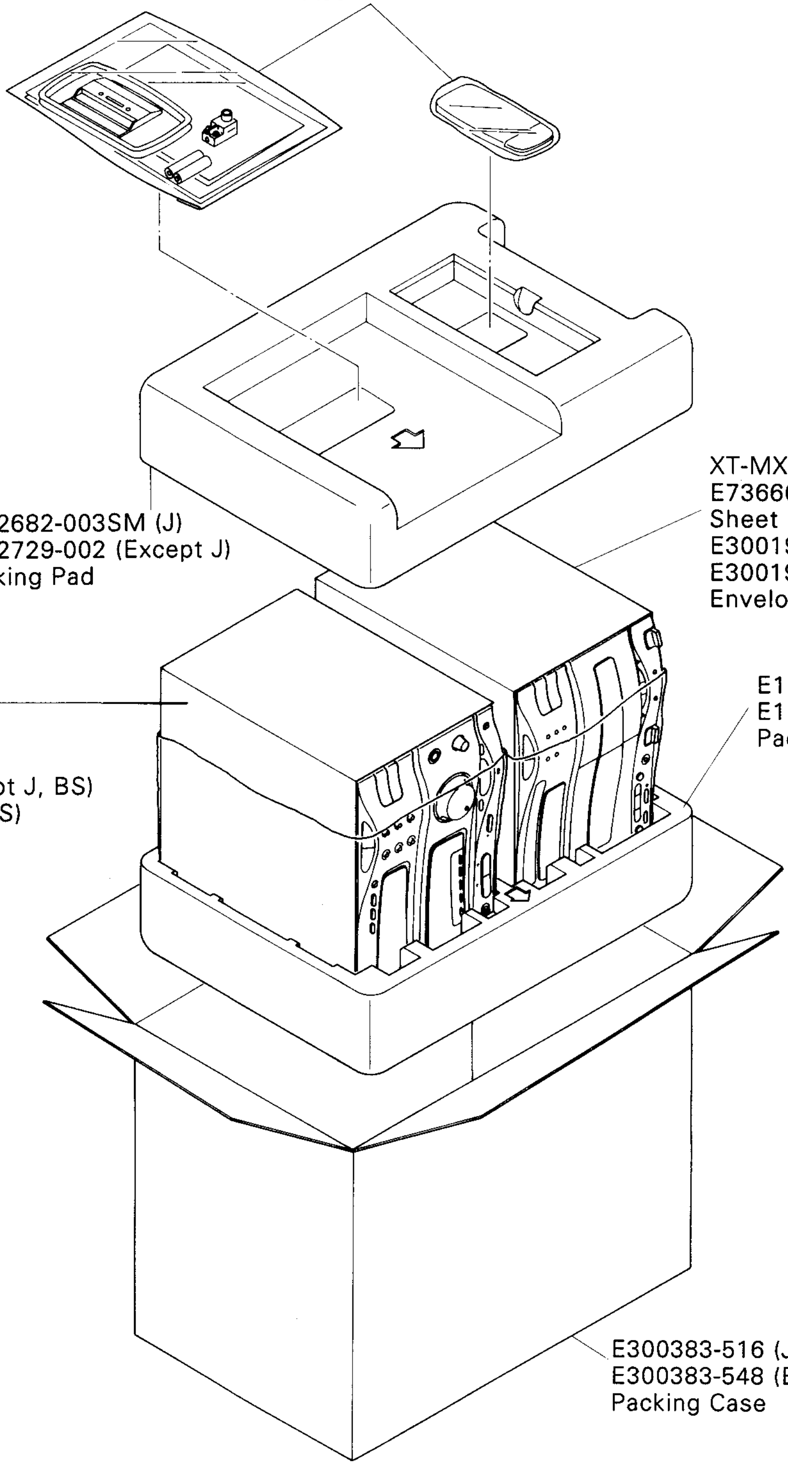
⚠ SAFET PARTS

The Marks for Designated Areas

J .... the U.S.A. C .... Canada A .... Australia EN ...... Scandinavia
EF ...... Continental Europe BS ...... the U.K. G .... Germany GI .... Itary
UT ...... Taiwan U ...... Universal Type No mark indicates all areas.

Packing Materials and Part Numbers

Accessories



E102682-003SM (J)
E102729-002 (Except J)
Packing Pad

XT-MXS4BK
E73660-076
Sheet
E300196-129 (Except J, BS)
E300196-129B (J, BS)
Envelope (Yellow)

RX-MXS4BK
E73660-076
Sheet
E300196-103 (Except J, BS)
E300196-103B (J, BS)
Envelope (Clear)

E102683-003SM (J)
E102730-002 (Except J)
Packing Pad

E300383-516 (J)
E300383-548 (Except J)
Packing Case

The Marks for Designated Areas

J	the U.S.A.	C	Canada
A	Australia	EN	Scandinavia
EF	Continental Europe	BS	the U.K.
G	Germany	GI	Italy
UT	Taiwan	U	Universal Type

No mark indicates all areas.